

ZMYM5, ZN783, SPI2B, LRP1, MIXL1, SGT1, LMCD1, CEBPA, GATA2, SOX14, WTIP, PRP19, CBX6, NKX11, RBBP4, DMRT2, SMCA2 and fragments thereof.

[0011a] Also described herein is a method of modifying an epigenetic state of a target gene in a target chromosome, the method comprising contacting the target chromosome with an epigenetic editor, wherein the epigenetic editor comprises: (a) a first DNMT domain; (b) a DNA binding domain; and (c) a repressor domain, wherein the repressor domain is selected from the group consisting of: ZIM3, ZNF436, ZNF257, ZNF675, ZNF490, ZNF320, ZNF331, ZNF816, ZNF680, ZNF41, ZNF189, ZNF528, ZNF543, ZNF554, ZNF140, ZNF610, ZNF264, ZNF350, ZNF8, ZNF582, ZNF30, ZNF324, ZNF98, ZNF669, ZNF677, ZNF596, ZNF214, ZNF37A, ZNF34, ZNF250, ZNF547, ZNF273, ZNF354A, ZFP82, ZNF224, ZNF33A, ZNF45, ZNF175, ZNF595, ZNF184, ZNF419, ZFP28-1, ZFP28-2, ZNF18, ZNF213, ZNF394, ZFP1, ZFP14, ZNF416, ZNF557, ZNF566, ZNF729, ZIM2, ZNF254, ZNF764, ZNF785, ZNF10, CBX5, RYBP, YAF2, MGA, CBX1, SCMH1, MPP8, SUMO3, HERC2, BIN1, PCGF2, TOX, FOXA1, FOXA2, IRF2BP1, IRF2BP2, IRF2BPL IRF-2BP1 2 N-terminal domain, HOXA13, HOXB13, HOXC13, HOXA11, HOXC11, HOXC10, HOXA10, HOXB9, HOXA9, ZFP28, ZN334, ZN568, ZN37A, ZN181, ZN510, ZN862, ZN140, ZN208, ZN248, ZN571, ZN699, ZN726, ZIK1, ZNF2, Z705F, ZNF14, ZN471, ZN624, ZNF84, ZNF7, ZN891, ZN337, Z705G, ZN529, ZN729, ZN419, Z705A, ZNF45, ZN302, ZN486, ZN621, ZN688, ZN33A, ZN554, ZN878, ZN772, ZN224, ZN184, ZN544, ZNF57, ZN283, ZN549, ZN211, ZN615, ZN253, ZN226, ZN730, Z585A, ZN732, ZN681, ZN667, ZN649, ZN470, ZN484, ZN431, ZN382, ZN254, ZN124, ZN607, ZN317, ZN620, ZN141, ZN584, ZN540, ZN75D, ZN555, ZN658, ZN684, RBAK, ZN829, ZN582, ZN112, ZN716, HKR1, ZN350, ZN480, ZN416, ZNF92, ZN100, ZN736, ZNF74, CBX1, ZN443, ZN195, ZN530, ZN782, ZN791, ZN331, Z354C, ZN157, ZN727, ZN550, ZN793, ZN235, ZNF8, ZN724, ZN573, ZN577, ZN789, ZN718, ZN300, ZN383, ZN429, ZN677, ZN850, ZN454, ZN257, ZN264, ZFP82, ZFP14, ZN485, ZN737, ZNF44, ZN596, ZN565, ZN543, ZFP69, SUMO1, ZNF12, ZN169, ZN433, SUMO3, ZNF98, ZN175, ZN347, ZNF25, ZN519, Z585B, ZIM3, ZN517, ZN846, ZN230, ZNF66, ZFP1, ZN713, ZN816, ZN426, ZN674, ZN627, ZNF20, Z587B, ZN316, ZN233, ZN611, ZN556, ZN234, ZN560, ZNF77, ZN682, ZN614, ZN785, ZN445, ZFP30, ZN225, ZN551, ZN610, ZN528, ZN284, ZN418, MPP8, ZN490, ZN805, Z780B, ZN763, ZN285, ZNF85, ZN223, ZNF90, ZN557, ZN425, ZN229, ZN606, ZN155, ZN222, ZN442, ZNF91, ZN135, ZN778, RYBP, ZN534, ZN586, ZN567, ZN440, ZN583, ZN441, ZNF43, CBX5, ZN589, ZNF10, ZN563, ZN561, ZN136, ZN630, ZN527, ZN333, Z324B, ZN786, ZN709, ZN792, ZN599, ZN613, ZF69B, ZN799, ZN569, ZN564, ZN546, ZFP92, YAF2, ZN723, ZNF34, ZN439, ZFP57, ZNF19, ZN404, ZN274, CBX3, ZNF30, ZN250, ZN570, ZN675, ZN695, ZN548, ZN132, ZN738, ZN420, ZN626, ZN559, ZN460, ZN268, ZN304,

ZIM2, ZN605, ZN844, SUMO5, ZN101, ZN783, ZN417, ZN182, ZN823, ZN177, ZN197, ZN717, ZN669, ZN256, ZN251, CBX4, PCGF2, CDY2, CDYL2, HERC2, ZN562, ZN461, Z324A, ZN766, ID2, TOX, ZN274, SCMH1, ZN214, CBX7, ID1, CREM, SCX, ASCL1, ZN764, SCML2, TWST1, CREB1, TERF1, ID3, CBX8, CBX4, GSX1, NKX22, ATF1, TWST2, ZNF17, TOX3, TOX4, ZMYM3, I2BP1, RHXF1, SSX2, I2BPL, ZN680, CBX1, TRI68, HXA13, PHC3, TCF24, CBX3, HXB13, HEY1, PHC2, ZNF81, FIGLA, SAM11, KMT2B, HEY2, JDP2, HXC13, ASCL4, HHEX, HERC2, GSX2, BIN1, ETV7, ASCL3, PHC1, OTP, I2BP2, VGLL2, HXA11, PDLI4, ASCL2, CDX4, ZN860, LMBL4, PDIP3, NKX25, CEBPB, ISL1, CDX2, PROP1, SIN3B, SMBT1, HXC11, HXC10, PRS6A, VSX1, NKX23, MTG16, HMX3, HMX1, KIF22, CSTF2, CEBPE, DLX2, ZMYM3, PPARG, PRIC1, UNC4, BARX2, ALX3, TCF15, TERA, VSX2, HXD12, CDX1, TCF23, ALX1, HXA10, RX, CXXC5, SCML1, NFIL3, DLX6, MTG8, CBX8, CEBPD, SEC13, FIP1, ALX4, LHX3, PRIC2, MAGI3, NELL1, PRRX1, MTG8R, RAX2, DLX3, DLX1, NKX26, NAB1, SAMD7, PITX3, WDR5, MEOX2, NAB2, DHX8, FOXA2, CBX6, EMX2, CPSF6, HXC12, KDM4B, LMBL3, PHX2A, EMX1, NC2B, DLX4, SRY, ZN777, NELL1, ZN398, GATA3, BSH, SF3B4, TEAD1, TEAD3, RGAP1, PHF1, FOXA1, GATA2, FOXO3, ZN212, IRX4, ZBED6, LHX4, SIN3A, RBBP7, NKX61, TRI68, R51A1, MB3L1, DLX5, NOTC1, TERF2, ZN282, RGS12, ZN840, SPI2B, PAX7, NKX62, ASXL2, FOXO1, GATA3, GATA1, ZMYM5, ZN783, SPI2B, LRP1, MIXL1, SGT1, LMCD1, CEBPA, GATA2, SOX14, WTIP, PRP19, CBX6, NKX11, RBBP4, DMRT2, SMCA2 and fragments thereof.

[0011b] Also described herein is the use of an epigenetic editor in the manufacture of a medicament for a treatment of a disease in a subject, wherein the epigenetic editor comprises: (a) a first DNMT domain; (b) a DNA binding domain; and (c) a repressor domain, wherein the repressor domain is selected from the group consisting of: ZIM3, ZNF436, ZNF257, ZNF675, ZNF490, ZNF320, ZNF331, ZNF816, ZNF680, ZNF41, ZNF189, ZNF528, ZNF543, ZNF554, ZNF140, ZNF610, ZNF264, ZNF350, ZNF8, ZNF582, ZNF30, ZNF324, ZNF98, ZNF669, ZNF677, ZNF596, ZNF214, ZNF37A, ZNF34, ZNF250, ZNF547, ZNF273, ZNF354A, ZFP82, ZNF224, ZNF33A, ZNF45, ZNF175, ZNF595, ZNF184, ZNF419, ZFP28-1, ZFP28-2, ZNF18, ZNF213, ZNF394, ZFP1, ZFP14, ZNF416, ZNF557, ZNF566, ZNF729, ZIM2, ZNF254, ZNF764, ZNF785, ZNF10, CBX5, RYBP, YAF2, MGA, CBX1, SCMH1, MPP8, SUMO3, HERC2, BIN1, PCGF2, TOX, FOXA1, FOXA2, IRF2BP1, IRF2BP2, IRF2BPL IRF-2BP1 2 N-terminal domain, HOXA13, HOXB13, HOXC13, HOXA11, HOXC11, HOXC10, HOXA10, HOXB9, HOXA9, ZFP28, ZN334, ZN568, ZN37A, ZN181, ZN510, ZN862, ZN140, ZN208, ZN248, ZN571, ZN699, ZN726, ZIK1, ZNF2, Z705F, ZNF14, ZN471, ZN624, ZNF84, ZNF7, ZN891, ZN337, Z705G, ZN529, ZN729, ZN419, Z705A, ZNF45, ZN302, ZN486, ZN621, ZN688, ZN33A, ZN554, ZN878, ZN772, ZN224,

ZN184, ZN544, ZNF57, ZN283, ZN549, ZN211, ZN615, ZN253, ZN226, ZN730, Z585A, ZN732, ZN681, ZN667, ZN649, ZN470, ZN484, ZN431, ZN382, ZN254, ZN124, ZN607, ZN317, ZN620, ZN141, ZN584, ZN540, ZN75D, ZN555, ZN658, ZN684, RBAK, ZN829, ZN582, ZN112, ZN716, HKR1, ZN350, ZN480, ZN416, ZNF92, ZN100, ZN736, ZNF74, CBX1, ZN443, ZN195, ZN530, ZN782, ZN791, ZN331, Z354C, ZN157, ZN727, ZN550, ZN793, ZN235, ZNF8, ZN724, ZN573, ZN577, ZN789, ZN718, ZN300, ZN383, ZN429, ZN677, ZN850, ZN454, ZN257, ZN264, ZFP82, ZFP14, ZN485, ZN737, ZNF44, ZN596, ZN565, ZN543, ZFP69, SUMO1, ZNF12, ZN169, ZN433, SUMO3, ZNF98, ZN175, ZN347, ZNF25, ZN519, Z585B, ZIM3, ZN517, ZN846, ZN230, ZNF66, ZFP1, ZN713, ZN816, ZN426, ZN674, ZN627, ZNF20, Z587B, ZN316, ZN233, ZN611, ZN556, ZN234, ZN560, ZNF77, ZN682, ZN614, ZN785, ZN445, ZFP30, ZN225, ZN551, ZN610, ZN528, ZN284, ZN418, MPP8, ZN490, ZN805, Z780B, ZN763, ZN285, ZNF85, ZN223, ZNF90, ZN557, ZN425, ZN229, ZN606, ZN155, ZN222, ZN442, ZNF91, ZN135, ZN778, RYBP, ZN534, ZN586, ZN567, ZN440, ZN583, ZN441, ZNF43, CBX5, ZN589, ZNF10, ZN563, ZN561, ZN136, ZN630, ZN527, ZN333, Z324B, ZN786, ZN709, ZN792, ZN599, ZN613, ZF69B, ZN799, ZN569, ZN564, ZN546, ZFP92, YAF2, ZN723, ZNF34, ZN439, ZFP57, ZNF19, ZN404, ZN274, CBX3, ZNF30, ZN250, ZN570, ZN675, ZN695, ZN548, ZN132, ZN738, ZN420, ZN626, ZN559, ZN460, ZN268, ZN304, ZIM2, ZN605, ZN844, SUMO5, ZN101, ZN783, ZN417, ZN182, ZN823, ZN177, ZN197, ZN717, ZN669, ZN256, ZN251, CBX4, PCGF2, CDY2, CDYL2, HERC2, ZN562, ZN461, Z324A, ZN766, ID2, TOX, ZN274, SCM1, ZN214, CBX7, ID1, CREM, SCX, ASCL1, ZN764, SCML2, TWST1, CREB1, TERF1, ID3, CBX8, CBX4, GSX1, NKX22, ATF1, TWST2, ZNF17, TOX3, TOX4, ZMYM3, I2BP1, RHXF1, SSX2, I2BPL, ZN680, CBX1, TRI68, HXA13, PHC3, TCF24, CBX3, HXB13, HEY1, PHC2, ZNF81, FIGLA, SAM11, KMT2B, HEY2, JDP2, HXC13, ASCL4, HHEX, HERC2, GSX2, BIN1, ETV7, ASCL3, PHC1, OTP, I2BP2, VGLL2, HXA11, PDLI4, ASCL2, CDX4, ZN860, LMBL4, PDIP3, NKX25, CEBPB, ISL1, CDX2, PROP1, SIN3B, SMBT1, HXC11, HXC10, PRS6A, VSX1, NKX23, MTG16, HMX3, HMX1, KIF22, CSTF2, CEBPE, DLX2, ZMYM3, PPARG, PRIC1, UNC4, BARX2, ALX3, TCF15, TERA, VSX2, HXD12, CDX1, TCF23, ALX1, HXA10, RX, CXXC5, SCML1, NFIL3, DLX6, MTG8, CBX8, CEBPD, SEC13, FIP1, ALX4, LHX3, PRIC2, MAGI3, NELL1, PRRX1, MTG8R, RAX2, DLX3, DLX1, NKX26, NAB1, SAMD7, PITX3, WDR5, MEOX2, NAB2, DHX8, FOXA2, CBX6, EMX2, CPSF6, HXC12, KDM4B, LMBL3, PHX2A, EMX1, NC2B, DLX4, SRY, ZN777, NELL1, ZN398, GATA3, BSH, SF3B4, TEAD1, TEAD3, RGAP1, PHF1, FOXA1, GATA2, FOXO3, ZN212, IRX4, ZBED6, LHX4, SIN3A, RBBP7, NKX61, TRI68, R51A1, MB3L1, DLX5, NOTC1, TERF2, ZN282, RGS12, ZN840, SPI2B, PAX7, NKX62, ASXL2, FOXO1, GATA3, GATA1, ZMYM5, ZN783,

SPI2B, LRP1, MIXL1, SGT1, LMCD1, CEBPA, GATA2, SOX14, WTIP, PRP19, CBX6, NKX11, RBBP4, DMRT2, SMCA2 and fragments thereof.

[0011c] Also described herein is an epigenetic editor as described herein for use in therapy.

[0012] In some embodiments, at least one of the repressor domains is selected from the group consisting of: SEQ ID NO: 67-595. In some embodiments, the DNA binding domain binds to a target sequence in a target chromosome comprising a target gene. In some embodiments, the repressor domain specifically binds to an epigenetic effector protein in a cell comprising a target gene and directs the epigenetic editor to the target gene to effect an epigenetic modification in a nucleotide in the target gene or a histone bound to the target gene. In some embodiments, the repressor domains is selected from the group consisting of: ZIM3, ZNF264, ZN577, ZN793, ZFP28, ZN627, RYBP, TOX, TOX3, TOX4, I2BP1, SCMH1, SCML2, CDYL2, CBX8, CBX5, and CBX1, and fragments thereof.

[0013] In some embodiments, the fusion protein further comprises a second DNMT domain. In some embodiments, the first DNMT domain is selected from the group consisting of a DNMT3A domain, a DNMT3B domain, a DNMT3C domain, and a DNMT3L domain. In some embodiments, the first DNMT domain is the DNMT3A domain. In some embodiments, the first DNMT domain is the DNMT3L domain. In some embodiments, the first DNMT domain is a human DNMT domain. In some embodiments, the first human DNMT domain is a human DNMT3A domain. In some embodiments, the human DNMT domain is a human DNMT3L domain. In some embodiments, the first DNMT domain is a mouse DNMT domain. In some embodiments, the mouse DNMT domain is a mouse DNMT3A domain. In some embodiments, the mouse DNMT domain is a mouse DNMT3L domain. In some embodiments, the first DNMT domain is a DNMT3A domain and the second DNMT domain is a DNMT3L domain. In some embodiments, the first DNMT domain is a human DNMT3A domain and the second DNMT domain is a human DNMT3L domain. In some embodiments, the first DNMT domain is a human DNMT3A domain and the second DNMT domain is a mouse DNMT3L domain. In some embodiments, the first DNMT domain is a mouse DNMT3A domain and the second DNMT domain is a human DNMT3L domain. In some embodiments, the first DNMT domain is a mouse DNMT3A domain and the second DNMT domain is a mouse DNMT3L domain. In some embodiments, the first DNMT domain is a catalytic portion of the DNMT domain. In some embodiments, the second DNMT domain is a catalytic portion of a DNMT domain. In some embodiments, the first DNMT domain and the second DNMT domain are selected from the group consisting of SEQ ID NO: 32-66.

[0014] In some embodiments, the DNA binding domain comprises a zinc finger motif. In some embodiments, the DNA binding domain comprises a zinc finger array. In some embodiments,

119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, or 150 base pairs of a guide RNA are chemically modified. Chemical modifications can be made in the protospacer region, the tracr RNA, the crRNA, the stem loop, or any combination thereof.

Zinc finger proteins

[0163] In some embodiments, an epigenetic editor described herein comprises a nucleic acid binding domain comprising a zinc finger domain.

[0164] Zinc finger proteins are DNA-binding proteins that contain one or more zinc fingers. In some embodiments, a zinc finger (ZF) comprises a relatively small polypeptide domain comprising approximately 30 amino acids. A zinc finger may comprise an α -helix adjacent an antiparallel β -sheet (known as a $\beta\beta\alpha$ -fold) which may co-ordinate with a zinc ion between four Cys and/or His residues, as described further below. In some embodiments, a ZF domain recognizes and binds to a nucleic acid triplet, or an overlapping quadruplet, in a double-stranded DNA target sequence. In certain embodiments, ZFs may also bind RNA and proteins.

[0165] As used herein, the term “zinc finger” (ZF) or “zinc finger motif” (ZF motif) refers to an individual “finger”, which comprises a beta-beta-alpha ($\beta\beta\alpha$)-protein fold stabilized by a zinc ion as described elsewhere herein. In some embodiments, each finger includes approximately 30 amino acids. In some embodiments, ZF proteins or ZF protein domains are protein motifs that contain multiple fingers or finger-like protrusions that make tandem contacts with their target molecule. For example, a ZF finger may bind a triplet or (overlapping) quadruplet nucleotide sequence. Accordingly, a tandem array of ZF fingers may be designed for ZF proteins that do not naturally exist to bind desired targets.

[0166] Zinc finger proteins are widespread in eukaryotic cells. An exemplary motif characterizing one class of these proteins (C2H2 class) is -Cys-(X)₂-4-Cys-(X)₁₂-His-(X)₃-5His ([SEQ ID NO: 1158](#)), where X is any amino acid. A single finger domain may be about 30 amino acids in length. In some embodiments, a single finger comprises an alpha helix containing the two invariant histidine residues co-ordinated through zinc with the two cysteines of a single beta turn.

[0167] In some embodiments, amino acid sequence of a zinc finger protein, e.g. a Zif268 protein may be altered by making amino acid substitutions at the helix positions (e.g., positions -1, 2, 3 and 6 of Zif268) on a zinc finger recognition helix. For example, modified zinc fingers with non-naturally occurring DNA recognition specificity may be generated by phage display and combinatorial libraries with randomized side-chains in either the first or middle finger of a Zif268 and then isolated with an altered Zif268 binding site in which the appropriate DNA sub-site was replaced by an altered DNA triplet.

[0180] In some embodiments, a zinc finger or zinc finger array targeting a specific DNA sequence is designed with a modular assembly approach. For example, two or more pre-selected zinc fingers may be fused in a tandem fashion.

[0181] In some embodiments, a zinc finger array comprises multiple zinc fingers fused via peptide bonds. In some embodiments, a zinc finger array comprises multiple zinc fingers, one or more of which connected by peptide linkers. For example, zinc fingers in a multiple finger array can be linked by peptide linkers of 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 or more amino acids in length. In some embodiments, zinc fingers in a multiple finger array are linked by peptide linkers of 5 amino acids in length. In some embodiments, zinc fingers in a multiple finger array are linked by peptide linkers of 6 amino acids in length. In some embodiments, the two-finger units bind adjacent bases and are connected by a linker with the sequence TGSQKP (SEQ ID NO.: [7041154](#)). In some embodiments the two-finger units bind sequences that are separated by 1 or 2 nucleotides and the two-finger units are separated by a linker with the sequence TGGGGSQKP (SEQ ID NO.: [7051155](#)).

[0182] In some embodiments, ZF-containing proteins may contain ZF arrays of 2 or more ZF motifs, which may be directly adjacent one another (i.e. separated by a short (canonical) linker sequence), or may be separated by longer, flexible or structured polypeptide sequences. In some embodiments, directly adjacent fingers bind to contiguous nucleic acid sequences, i.e. to adjacent trinucleotides/triplets. In some embodiments, adjacent fingers cross-bind between each other's respective target triplets, which may help to strengthen or enhance the recognition of the target sequence, and leads to the binding of overlapping quadruplet sequences. In some embodiments, distant ZF domains within the same protein may recognize (or bind to) non-contiguous nucleic acid sequences or even to different molecules (e.g. protein rather than nucleic acid).

[0183] In some embodiments, an epigenetic editor comprises zinc fingers comprising more than 3-fingers. In some embodiments, an epigenetic editor comprises at least 6 zinc fingers in the DNA binding domain. In some embodiments, an epigenetic editor comprises 6 zinc fingers in the DNA binding domain that binds to a 18bp target sequence. In some embodiments, the 18bp target sequence is unique in the human genome. In some embodiments, an epigenetic editor comprises zinc fingers comprising at least 7, 8, 9, 10, 11, 12, 13, 14, 15 or more zinc fingers. In some embodiments, the strong affinity of three-finger proteins would allow subsets of the longer array to bind DNA and therefore decrease specificity. Without wishing to be bound by any theory, zinc finger proteins comprising multiple two-finger units or three-finger units joined by extended linkers may confer higher DNA binding specificity as compared to fewer fingers, or

epigenetic modifications to DNA sequences, or associated histones in a target gene. In some embodiments, an epigenetic editor described herein comprises a zinc finger array having specificity for a target DNA sequence. In some embodiments a zinc finger array may have the sequence: SRPGERPFQCRICMRNFSNNNNNNNNHTRTHTGKEKPFQCRICMRNFSNNNNNNNNHLRTH[linker]FQCRICMRNFSNNNNNNNNHTRTHTGKEKPFQCRICMRNFSNNNNNNNNHLRTH[linker]FQCRICMRNFSNNNNNNNNHTRTHTGKEKPFQCRICMRNFSNNNNNNNNHLRTHLRGS (SEQ ID NO.: 1157).

Where NNNNNNN represents the amino acids of the zinc finger recognition helix, which confer DNA-binding specificity upon the zinc finger. And [linker] represents a linker sequence. In some embodiments the linker sequence may be TGSQKP (SEQ ID NO.: [7041154](#)). In some embodiments the linker sequence may be TGGGGSQKP (SEQ ID NO.: [7051155](#)). In some embodiments, the two linkers of the zinc finger array are the same. In some embodiments, the two linkers of the zinc finger array are different.

[0186] In some embodiments, the programmable DNA binding protein comprises an argonaute protein. One example of such a nucleic acid programmable DNA binding protein is an Argonaute protein from *Natronobacterium gregoryi* (NgAgo). NgAgo is a ssDNA-guided endonuclease. NgAgo binds 5' phosphorylated ssDNA of -24 nucleotides (gDNA) to guide it to its target site and will make DNA double-strand breaks at the gDNA site. In contrast to Cas9, the NgAgo-gDNA system does not require a protospacer-adjacent motif (PAM). Using a nuclease inactive NgAgo (dNgAgo) can greatly expand the bases that may be targeted. The characterization and use of NgAgo have been described in Gao et al., *Nat Biotechnol.*, 2016 Jul;34(7):768-73. PubMed PMID: 27136078; Swarts et al., *Nature*. 507(7491) (2014):258-61; and Swarts et al., *Nucleic Acids Res.* 43(10) (2015):5120-9, each of which is incorporated herein by reference.

[0187] In some embodiments, the nucleic acid binding domain comprises a virus derived RNA-binding domain guided by an RNA sequence to bind the target gene. In some embodiments, the nucleic acid binding domain comprises a K Homology (KH) domain, a MS2 coat protein domain, a PP7 coat protein domain, a SfMu Com coat protein domain, a sterile alpha motif, a telomerase Ku binding motif and Ku protein, a telomerase Sm7 binding motif and Sm7 protein, or any other RNA recognition motifs.

[0188] In some embodiments, the nucleic acid binding domain comprises an inactivated nuclease, for example, an inactivated meganuclease. Additional non-limiting examples of DNA binding domains include tetracycline-controlled repressor (tetR) DNA binding domain, leucine

Protein Name	Species	Target	Protein Sequence
CMT3	Arabidopsis	5MC	SEQ ID NO.: 59
Rid	Neurospora	5MC	SEQ ID NO.: 60
hsdM gene	bacteria (E.coli, strain 12)	m6A	SEQ ID NO.: 61
hsdS gene	bacteria (E.coli, strain 12)	m6A	SEQ ID NO.: 62
M.TaqI	bacteria; Thermus aquaticus	m6A	SEQ ID NO.: 63
M.EcoDam	E. coli	m6A	SEQ ID NO.: 64
M.CcrMI	Caulobacter crescentus	m6A	SEQ ID NO.: 65
CamA	Clostridioides difficile	m6A	SEQ ID NO.: 66

[0335] In some embodiments, the effector domain recruits one or more protein domains that repress expression of the target gene. In some embodiments, the effector domain interacts with a scaffold protein domain that recruits one or more protein domains that repress expression of the target gene. For example, the effector domain may recruit or interact with a scaffold protein domain that recruits a PRMT protein, a HDAC protein, a SETDB1 protein, or a NuRD protein domain. In some embodiments, the effector domain comprises a Krüppel associated box (KRAB) repression domain; a Repressor Element Silencing Transcription Factor (REST) repression domain, KRAB-associated protein 1 (KAP1) domain, a MAD domain, a FKHR (forkhead in rhabdosarcoma gene) repressor domain, AegR-1 (early growth response gene product-1) repressor domain, a ets2 repressor factor repressor domain (ERD), a MAD smSIN3 interaction domain (SID), a WRPW motif ([SEQ ID NO: 1162](#)) of the hairy-related basic helix-loop-helix (BhlH) repressor proteins; an HP1 alpha chromo-shadow repression domain, or any combination thereof. In some embodiments, the effector domain comprises a KRAB domain. In some embodiments, the effector domain comprises a Tripartite motif containing 28 (TRIM28, TIF1-beta, or KAP1) protein.

[0336] In some embodiments, an effector domain comprises a protein domain that represses expression of the target gene. For example, the effector domain may comprise a functional domain derived from a zinc finger repressor protein. In some embodiments, the effector domain comprises a functional repression domain derived from a KOX1/ZNF10 domain, a KOX8/ZNF708 domain, a ZNF43 domain, a ZNF184 domain, a ZNF91 KRAB domain, a HPF4 domain, a HTF10 domain or a HTF34 domain or any combination thereof. In some embodiments, the effector domain comprises a functional repression domain derived from a ZIM3 protein domain, a ZNF436 domain, a ZNF257 domain, a ZNF675 domain, a ZNF490 domain, a ZNF320 domain, a ZNF331 domain, a ZNF816 domain, a ZNF680 domain, a ZNF41 domain, a ZNF189 domain, a ZNF528 domain, a ZNF543 domain, a ZNF554

Protein	Species	Protein Sequence
TET2	Human	SEQ ID NO.: 600
TET3	Human	SEQ ID NO.: 601
TDG	Human	SEQ ID NO.: 602
ROS1	Arabidopsis	SEQ ID NO.: 603
DME	Arabidopsis	SEQ ID NO.: 604
DML2	Arabidopsis	SEQ ID NO.: 605
DML3	Arabidopsis	SEQ ID NO.: 606

[0353] The effector domain may activate expression of the target gene. In some embodiments, the effector domain comprises a protein domain that recruits one or more transcription activator domains. In some embodiments, the effector domain comprises a protein domain that recruits one or more transcription factors. In some embodiments, the effector domain comprises a transcription activator or a transcription factor domain. In some embodiments, the effector domain comprises a Herpes Simplex Virus Protein 16 (VP16) activation domain. In some embodiments, the effector domain comprises an activation domain comprising a tandem repeat of multiple VP16 activation domains. In some embodiments, the effector domain comprises four tandem copies of VP16, a VP64 activation domain. In some embodiments, the effector domain comprises a p65 activation domain of NFκB; an Epstein-Barr virus R transactivator (Rta) activation domain. In some embodiments, the effector domain comprises a fusion of multiple activators, e.g., a tripartite activator of the VP64, the p65, and the Rta activation domains, (a VPR activation domain).

[0354] In some embodiments, an effector domain comprises a transactivation domain of FOXO protein family (FOXO-TAD), a LMSTEN motif domain (LMSTEN) (["LMSTEN" disclosed as SEQ ID NO: 1163](#)), a Transducer of regulated CREB activity C terminus domain (TORC_C), a QLQ domain, a Nuclear receptor coactivator domain (Nuc_rec_co-act), an Autophagy receptor zinc finger-C2H2 domain (Zn-C2H2-12), an Anaphase-promoting complex subunit 16 (ANAPC16), a Dpy-30 domain, a ANC1 homology domain (AHD), a Signal transducer and activator of transcription 2 C terminal (STAT2_C), a I-kappa-kinase-beta NEMO binding domain (IKKbetaNEMObind), a Early growth response N-terminal domain (DUF3446), a TFIIE beta subunit core domain (TFIIE_beta), a N-terminal domain of DPF2/REQ (Requiem_N), a LNR domain (Notch), a Atypical Arm repeat (Arm_3), a Protein kinase C terminal domain (pKinase_C), WW domain, a SH3 domain (SH3_1), a Myb-like DNA-binding domain, a WD domain G-beta repeat (WD40), a PHD-finger (PHD), a RNA recognition motif domain (RRM_1), a GATA zinc finger domain (GATA), a Vps4 C terminal oligomerization domain (Vps4_C), or in any combination thereof. In some embodiments, the

effector domain comprises a KRAB domain that activates expression of a target gene. For example the KRAB domain may be a ZNF473 KRAB domain, a ZFP28 KRAB domain, a ZNF496 KRAB domain, or a ZNF597 KRAB domain or any combination thereof. In some embodiments, the KRAB domain comprises a 41-amino-acid ZNF473 KRAB domain (41 AA ZNF473). In some embodiments, the effector domain comprises a FOXO-TAD domain, a LMSTEN domain (["LMSTEN" disclosed as SEQ ID NO: 1163](#)), or a TORC_C domain. In some embodiment, the protein domain comprises a RNA polymerase II transcription mediator complex subunit 9 (Med9), TFIIE beta subunit core domain (TFIIE β), nuclear receptor coactivator 3 domain (NCOA3), transactivation domain of FOXO protein family (FOXO-TAD), LMSTEN motif domain (["LMSTEN" disclosed as SEQ ID NO: 1163](#)), early growth response N-terminal domain (DUF3446), QLQ domain, or Dpy-30 motif domain or any combination thereof. In some embodiment, the effector domain comprises a ZNF473 KRAB domain or a Med9 domain.

[0355] Exemplary domains that can activate or increase target gene expression are provided in Table 5 below.

Table 5. Exemplary protein domains that may be used in epigenetic effector domains to increase target gene expression

Protein	Species	Protein Sequence
VP16	Herpes simplex virus type 1 (strain 17)	SEQ ID NO.: 607
VP64	Herpes simplex virus type 1	SEQ ID NO.: 608
VP160	Herpes simplex virus type 1	SEQ ID NO.: 609
HIF1alpha	Human	SEQ ID NO.: 610
CITED2	Human	SEQ ID NO.: 611
Stat3	Human	SEQ ID NO.: 612
p65	Human	SEQ ID NO.: 613
p53	Human	SEQ ID NO.: 614
ZNF473	Human	SEQ ID NO.: 615
FOXO1	Human	SEQ ID NO.: 616
Myb	Human	SEQ ID NO.: 617
CRTC1	Human	SEQ ID NO.: 618
Med9	Human	SEQ ID NO.: 619
EGR3	Human	SEQ ID NO.: 620
SMARCA2	Human	SEQ ID NO.: 621
Dpy-30	Human	SEQ ID NO.: 622
NCOA3	Human	SEQ ID NO.: 623
ZFP28	Human	SEQ ID NO.: 624
ZNF496	Human	SEQ ID NO.: 625

embodiments, the linker is 64 amino acids in length. In some embodiments, the linker comprises the amino acid sequence SEQ ID NO.: 687.

[0377] In some embodiments, the linker is 92 amino acids in length. In some embodiments, the linker comprises the amino acid sequence SEQ ID NO.: 688.

[0378] Various linker lengths and flexibilities between a effector domain (e.g., a repressor domain) and a DNA binding protein (e.g., a Cas9 domain), between a effector domain and a second effector domain, or between any two components of an epigenetic editor can be employed (e.g., ranging from very flexible linkers of the form (GGGGS)_n ([SEQ ID NO: 1159](#)), (GGGGS)_n ([SEQ ID NO: 1159](#)), and (G)_n to more rigid linkers of the form (EAAAK)_n ([SEQ ID NO: 1160](#)), (SGGS)_n ([SEQ ID NO: 1161](#)), and (XP)_n) in order to achieve the optimal length for effector domain activity for the specific application. In some embodiments, n is any integer between 3 and 30. In some embodiments, n is 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, or 15. In some embodiments, the linker comprises a (GGS)_n motif, wherein n is 1, 3, or 7 ([SEQ ID NO: 1164](#)).

[0379] In some embodiments, a linker in an epigenetic editor comprises a nuclear localization signal, for example, of peptide sequence SEQ ID NO.: 689-694. In some embodiments, a linker in an epigenetic editor comprises a cleavable peptide, e.g., a T2A peptide, a p2A peptide, or a furin/p2A peptide. In some embodiments, a linker in an epigenetic editor comprises an expression tag, e.g. a detectable tag such as a green fluorescence protein.

[0380] In some embodiments, a linker comprises a nucleic acid. For example, one or more linkers of an epigenetic editor may include a nucleic acid that is capable of binding to, interacting with, associating with, or forming a complex with a polypeptide. In some embodiments, the nucleic acid linker may be a RNA linker capable of binding to and/or interacting with a RNA binding protein domain, e.g. a phase derived RNA binding domain. In some embodiments, the nucleic acid linker may be fused to a guide polynucleotide capable of binding to a Cas protein of an epigenetic editor. In some embodiments, the nucleic acid linker comprises a K homology (KH) domain binding sequence, a MS2 coat protein binding sequence, a PP7 coat protein binding sequence, a SfMu COM coat protein binding sequence, a telomerase Ku binding motif binding sequence, a sm7 protein binding sequence, or other RNA recognition motif binding sequence thereof.

[0381] In some embodiments, a linker comprises an affinity domain that specifically binds a component of an epigenetic effector. For example, an epigenetic effector may comprise a programmable DNA binding domain, a linker comprising an affinity domain having specific binding affinity to an epigenetic effector domain. The affinity domain may comprise an antibody, a single chain antibody, a nanobody, and antigen binding sequence, an antibody, a

GGTGAGCAAGGGCGCCGAGCTGTTCACCGGCATCGTGCCCATCCTGATCGAGCTGAA
TGGCGATGTGAATGGCCACAAGTTCAGCGTGAGCGGCGAGGGCGAGGGCGATGCCACC
TACGGCAAGCTGACCCTGAAGTTCATCTGCACCACCGGCAAGCTGCCTGTGCCCTGGCC
C

Table 7: Target Site Table

Target Site	Sequence
GFP-1	SEQ ID NO.: 696
GFP-2	SEQ ID NO.: 697
GFP-3	SEQ ID NO.: 698
GFP-4	SEQ ID NO.: 699
GFP-5	SEQ ID NO.: 700
GFP-6	SEQ ID NO.: 701
GFP-7	SEQ ID NO.: 702

Zinc finger sequences were designed for binding of the above described target site. Exemplary Zinc finger sequences are as follows:

SRPGERPFQCRICMRNFS[F1]HTRTHTGEKPFQCRICMRNFS[F2]HLRTH[linker1]FQCRICMRNFS[F3]HTRTHTGEKPFQCRICMRNFS[F4]HLRTH[linker2]FQCRICMRNFS[F5]HTRTHTGEKPFQCRICMRNFS[F6]HLRTHLRGS (SEQ ID NO.: 703)

Where zinc finger proteins for a given target site have the following linkers:

Table 8: Linkers for a Given Target Site

Target Site	Sequence	Linker 1	Linker 2
GFP-1	SEQ ID NO.: 696	SEQ ID NO.: 704	SEQ ID NO.: 705
GFP-2	SEQ ID NO.: 697	SEQ ID NO.: 705	SEQ ID NO.: 704
GFP-3	SEQ ID NO.: 698	SEQ ID NO.: 704	SEQ ID NO.: 705
GFP-4	SEQ ID NO.: 699	SEQ ID NO.: 704	SEQ ID NO.: 704
GFP-5	SEQ ID NO.: 700	SEQ ID NO.: 704	SEQ ID NO.: 704
GFP-6	SEQ ID NO.: 701	SEQ ID NO.: 704	SEQ ID NO.: 704
GFP-7	SEQ ID NO.: 702	SEQ ID NO.: 704	SEQ ID NO.: 705

and where recognition helices for a given target site may be selected from the following SEQ ID NO.: 716-961:

Table 9: Recognition Helices for a Given Target Site

Target Site	Zinc Finger Protein Name	F1	F2	F3	F4	F5	F6
GFP-1	GFP1-ZF1	HKSSLTR (SEQ ID NO: 716)	RTEHLAR (SEQ ID NO: 757)	QSAHLKR (SEQ ID NO: 798)	RTEHLAR (SEQ ID NO: 839)	HKSSLTR (SEQ ID NO: 880)	RPESLAP (SEQ ID NO: 921)

Target Site	Zinc Finger Protein Name	F1	F2	F3	F4	F5	F6
GFP-1	GFP1-ZF2	HKSSLTR (SEQ ID NO: 717)	RTEHLAR (SEQ ID NO: 758)	TSAHLAR (SEQ ID NO: 799)	RREHLVR (SEQ ID NO: 840)	HKSSLTR (SEQ ID NO: 881)	RPESLAP (SEQ ID NO: 922)
	GFP1-ZF3	IKAILTR (SEQ ID NO: 718)	RREHLVR (SEQ ID NO: 759)	QSAHLKR (SEQ ID NO: 800)	RTEHLAR (SEQ ID NO: 841)	HKSSLTR (SEQ ID NO: 882)	RPESLAP (SEQ ID NO: 923)

Target Site	Zinc Finger Protein Name	F1	F2	F3	F4	F5	F6
	GFP1-ZF4	IKAILTR (SEQ ID NO: 719)	RREHLVR (SEQ ID NO: 760)	TSAHLAR (SEQ ID NO: 801)	RREHLVR (SEQ ID NO: 842)	HKSSLTR (SEQ ID NO: 883)	RPESLAP (SEQ ID NO: 924)
GFP-2	GFP2-ZF1	TSTLLNR (SEQ ID NO: 720)	QQTNLTR (SEQ ID NO: 761)	DEANLRR (SEQ ID NO: 802)	QSAHLKR (SEQ ID NO: 843)	IPNKLAR (SEQ ID NO: 884)	RREVLEN (SEQ ID NO: 925)
	GFP2-ZF2	TSTLLNR (SEQ ID NO: 721)	QQTNLTR (SEQ ID NO: 762)	DEANLRR (SEQ ID NO: 803)	QSAHLKR (SEQ ID NO: 844)	EAHHLR (SEQ ID NO: 885)	RKDALHV (SEQ ID NO: 926)
	GFP2-ZF3	TSTLLNR (SEQ ID NO: 722)	QQTNLTR (SEQ ID NO: 763)	DRGNLTR (SEQ ID NO: 804)	QGGHLKR (SEQ ID NO: 845)	IPNKLAR (SEQ ID NO: 886)	RREVLEN (SEQ ID NO: 927)
	GFP2-ZF4	TSTLLNR (SEQ ID NO: 723)	QQTNLTR (SEQ ID NO: 764)	DRGNLTR (SEQ ID NO: 805)	QGGHLKR (SEQ ID NO: 846)	EAHHLR (SEQ ID NO: 887)	RKDALHV (SEQ ID NO: 928)
	GFP2-ZF5	HKSSLTR (SEQ ID NO: 724)	QTNNLGR (SEQ ID NO: 765)	DEANLRR (SEQ ID NO: 806)	QSAHLKR (SEQ ID NO: 847)	IPNKLAR (SEQ ID NO: 888)	RREVLEN (SEQ ID NO: 929)
	GFP2-ZF6	HKSSLTR (SEQ ID NO: 725)	QTNNLGR (SEQ ID NO: 766)	DEANLRR (SEQ ID NO: 807)	QSAHLKR (SEQ ID NO: 848)	EAHHLR (SEQ ID NO: 889)	RKDALHV (SEQ ID NO: 930)
	GFP2-ZF7	HKSSLTR (SEQ ID NO: 726)	QTNNLGR (SEQ ID NO: 767)	DRGNLTR (SEQ ID NO: 808)	QGGHLKR (SEQ ID NO: 849)	IPNKLAR (SEQ ID NO: 890)	RREVLEN (SEQ ID NO: 931)
	GFP2-ZF8	HKSSLTR (SEQ ID NO: 727)	QTNNLGR (SEQ ID NO: 768)	DRGNLTR (SEQ ID NO: 809)	QGGHLKR (SEQ ID NO: 850)	EAHHLR (SEQ ID NO: 891)	RKDALHV (SEQ ID NO: 932)
GFP-3	GFP3-ZF1	QQTNLTR (SEQ ID NO: 728)	IRHHLKR (SEQ ID NO: 769)	DSSVLRR (SEQ ID NO: 810)	LSTNLTR (SEQ ID NO: 851)	QSTTLKR (SEQ ID NO: 892)	RSDHLSL (SEQ ID NO: 933)
	GFP3-ZF2	QQTNLTR (SEQ ID NO: 729)	IRHHLKR (SEQ ID NO: 770)	DGSTLNR (SEQ ID NO: 811)	VRHNLTR (SEQ ID NO: 852)	QSTTLKR (SEQ ID NO: 893)	RSDHLSL (SEQ ID NO: 934)
	GFP3-ZF3	RKPNNLR (SEQ ID NO: 730)	EAHHLR (SEQ ID NO: 771)	DSSVLRR (SEQ ID NO: 812)	LSTNLTR (SEQ ID NO: 853)	QSTTLKR (SEQ ID NO: 894)	RSDHLSL (SEQ ID NO: 935)
	GFP3-ZF4	RKPNNLR (SEQ ID NO: 731)	EAHHLR (SEQ ID NO: 772)	DGSTLNR (SEQ ID NO: 813)	VRHNLTR (SEQ ID NO: 854)	QSTTLKR (SEQ ID NO: 895)	RSDHLSL (SEQ ID NO: 936)
GFP-4	GFP4-ZF1	VRHNLTR (SEQ ID NO: 732)	ESGHLKR (SEQ ID NO: 773)	RQDNLGR (SEQ ID NO: 814)	KNHSLNN (SEQ ID NO: 855)	RQDNLGR (SEQ ID NO: 896)	KNHSLNN (SEQ ID NO: 937)

Target Site	Zinc Finger Protein Name	F1	F2	F3	F4	F5	F6
GFP-5	GFP5-ZF1	DSSVLRR (SEQ ID NO: 733)	LSTNLTR (SEQ ID NO: 774)	LKEHLTR (SEQ ID NO: 815)	RVDNLPR (SEQ ID NO: 856)	LKEHLTR (SEQ ID NO: 897)	RVDNLPR (SEQ ID NO: 938)
	GFP5-ZF2	DSSVLRR (SEQ ID NO: 734)	LSTNLTR (SEQ ID NO: 775)	LKEHLTR (SEQ ID NO: 816)	RVDNLPR (SEQ ID NO: 857)	SPSKLVR (SEQ ID NO: 898)	RQDNLGR (SEQ ID NO: 939)
	GFP5-ZF3	DSSVLRR (SEQ ID NO: 735)	LSTNLTR (SEQ ID NO: 776)	SPSKLVR (SEQ ID NO: 817)	RQDNLGR (SEQ ID NO: 858)	LKEHLTR (SEQ ID NO: 899)	RVDNLPR (SEQ ID NO: 940)
	GFP5-ZF4	DSSVLRR (SEQ ID NO: 736)	LSTNLTR (SEQ ID NO: 777)	SPSKLVR (SEQ ID NO: 818)	RQDNLGR (SEQ ID NO: 859)	SPSKLVR (SEQ ID NO: 900)	RQDNLGR (SEQ ID NO: 941)
	GFP5-ZF5	DGSTLNR (SEQ ID NO: 737)	VRHNLTR (SEQ ID NO: 778)	LKEHLTR (SEQ ID NO: 819)	RVDNLPR (SEQ ID NO: 860)	LKEHLTR (SEQ ID NO: 901)	RVDNLPR (SEQ ID NO: 942)
	GFP5-ZF6	DGSTLNR (SEQ ID NO: 738)	VRHNLTR (SEQ ID NO: 779)	LKEHLTR (SEQ ID NO: 820)	RVDNLPR (SEQ ID NO: 861)	SPSKLVR (SEQ ID NO: 902)	RQDNLGR (SEQ ID NO: 943)
	GFP5-ZF7	DGSTLNR (SEQ ID NO: 739)	VRHNLTR (SEQ ID NO: 780)	SPSKLVR (SEQ ID NO: 821)	RQDNLGR (SEQ ID NO: 862)	LKEHLTR (SEQ ID NO: 903)	RVDNLPR (SEQ ID NO: 944)
	GFP5-ZF8	DGSTLNR (SEQ ID NO: 740)	VRHNLTR (SEQ ID NO: 781)	SPSKLVR (SEQ ID NO: 822)	RQDNLGR (SEQ ID NO: 863)	SPSKLVR (SEQ ID NO: 904)	RQDNLGR (SEQ ID NO: 945)
GFP-6	GFP6-ZF1	RKPILLR (SEQ ID NO: 741)	VRHNLTR (SEQ ID NO: 782)	DKAQLGR (SEQ ID NO: 823)	EAHHLR (SEQ ID NO: 864)	RQSRLQR (SEQ ID NO: 905)	KGDHLRR (SEQ ID NO: 946)
	GFP6-ZF2	RKPILLR (SEQ ID NO: 742)	VRHNLTR (SEQ ID NO: 783)	DKAQLGR (SEQ ID NO: 824)	EAHHLR (SEQ ID NO: 865)	EAHHLR (SEQ ID NO: 906)	DPSNLR (SEQ ID NO: 947)
	GFP6-ZF3	RKPILLR (SEQ ID NO: 743)	VRHNLTR (SEQ ID NO: 784)	QSTTLKR (SEQ ID NO: 825)	VDHHLR (SEQ ID NO: 866)	RQSRLQR (SEQ ID NO: 907)	KGDHLRR (SEQ ID NO: 948)
	GFP6-ZF4	RKPILLR (SEQ ID NO: 744)	VRHNLTR (SEQ ID NO: 785)	QSTTLKR (SEQ ID NO: 826)	VDHHLR (SEQ ID NO: 867)	EAHHLR (SEQ ID NO: 908)	DPSNLR (SEQ ID NO: 949)
	GFP6-ZF5	QQTNLTR (SEQ ID NO: 745)	VGSNLTR (SEQ ID NO: 786)	DKAQLGR (SEQ ID NO: 827)	EAHHLR (SEQ ID NO: 868)	RQSRLQR (SEQ ID NO: 909)	KGDHLRR (SEQ ID NO: 950)
	GFP6-ZF6	QQTNLTR (SEQ ID NO: 746)	VGSNLTR (SEQ ID NO: 787)	DKAQLGR (SEQ ID NO: 828)	EAHHLR (SEQ ID NO: 869)	EAHHLR (SEQ ID NO: 910)	DPSNLR (SEQ ID NO: 951)

Target Site	Zinc Finger Protein Name	F1	F2	F3	F4	F5	F6
	GFP6-ZF7	QQTNLTR (SEQ ID NO: 747)	VGSNLTR (SEQ ID NO: 788)	QSTTLKR (SEQ ID NO: 829)	VDHHLRR (SEQ ID NO: 870)	RQSRLQR (SEQ ID NO: 911)	KGDHLRR (SEQ ID NO: 952)
	GFP6-ZF8	QQTNLTR (SEQ ID NO: 748)	VGSNLTR (SEQ ID NO: 789)	QSTTLKR (SEQ ID NO: 830)	VDHHLRR (SEQ ID NO: 871)	EAHHLR (SEQ ID NO: 912)	DPSNLRR (SEQ ID NO: 953)
GFP-7	GFP7-ZF1	QSTTLKR (SEQ ID NO: 749)	VDHHLRR (SEQ ID NO: 790)	EAHHLR (SEQ ID NO: 831)	DPSNLRR (SEQ ID NO: 872)	QRSDLTR (SEQ ID NO: 913)	QGGTLRR (SEQ ID NO: 954)
	GFP7-ZF2	QSTTLKR (SEQ ID NO: 750)	VDHHLRR (SEQ ID NO: 791)	EAHHLR (SEQ ID NO: 832)	DPSNLRR (SEQ ID NO: 873)	TKQILGR (SEQ ID NO: 914)	QSTTLKR (SEQ ID NO: 955)
	GFP7-ZF3	QSTTLKR (SEQ ID NO: 751)	VDHHLRR (SEQ ID NO: 792)	RQSRLQR (SEQ ID NO: 833)	DSSVLRR (SEQ ID NO: 874)	QRSDLTR (SEQ ID NO: 915)	QGGTLRR (SEQ ID NO: 956)
	GFP7-ZF4	QSTTLKR (SEQ ID NO: 752)	VDHHLRR (SEQ ID NO: 793)	RQSRLQR (SEQ ID NO: 834)	DSSVLRR (SEQ ID NO: 875)	TKQILGR (SEQ ID NO: 916)	QSTTLKR (SEQ ID NO: 957)
	GFP7-ZF5	DKAQLGR (SEQ ID NO: 753)	EAHHLR (SEQ ID NO: 794)	EAHHLR (SEQ ID NO: 835)	DPSNLRR (SEQ ID NO: 876)	QRSDLTR (SEQ ID NO: 917)	QGGTLRR (SEQ ID NO: 958)
	GFP7-ZF6	DKAQLGR (SEQ ID NO: 754)	EAHHLR (SEQ ID NO: 795)	EAHHLR (SEQ ID NO: 836)	DPSNLRR (SEQ ID NO: 877)	TKQILGR (SEQ ID NO: 918)	QSTTLKR (SEQ ID NO: 959)

Target Site	Zinc Finger Protein Name	F1	F2	F3	F4	F5	F6
	GFP7-ZF7	DKAQLGR (SEQ ID NO: 755)	EAHHLSR (SEQ ID NO: 796)	RQSRLQR (SEQ ID NO: 837)	DSSVLRR (SEQ ID NO: 878)	QRSDLTR (SEQ ID NO: 919)	QGGTLRR (SEQ ID NO: 960)
	GFP7-ZF8	DKAQLGR (SEQ ID NO: 756)	EAHHLSR (SEQ ID NO: 797)	RQSRLQR (SEQ ID NO: 838)	DSSVLRR (SEQ ID NO: 879)	TKQILGR (SEQ ID NO: 920)	QSTTLKR (SEQ ID NO: 961)

[0496] Example 2: epigenetic editor sequences.

[0497] Amino acid sequences of exemplary epigenetic editors are provided below.

Exemplary fusion protein DNMT3A-3L-ZF-KRAB (SEQ ID NO.: 978) where zinc finger is GFP1-ZF1:

MAPKKKRKMNHQDEFDPPKVYPPVPAEKRKPIRVLSLFDGIATGLLVLKDLGIQVDRYIASEVCE
DSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDLVIGGSPCNDLSIVNPARKGLYEGTGRLFF
EFYRLLDARPKEGDDRPFFWLFENVVAMGVSDKRDISRFLESNPVMIDAKEVSAAHRARYFWG
NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQGKDQHFVFMNEKEDILWC
TEMERVFGFPVHYTDVSNMSRLARQRLGRSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPS
FSSGLVPLSLRGSHMGPMEIYKTVSAWKRQPVRVLSLERNIDKVLKSLGFLESGSGSGG
GTLKYVEDVTNVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYMFQFHRILQYALP
RQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVTLQDVRGRDYQNAMRVWSNIPG
LKSKHAPLTPKEEYLQAQVRSRSLDAPKVDLLVKNCLLPLREYFKYFSQNSLPLSGG
GGSGGGGSVGIHGVPSRPGERPFQCRICMRNFSHKSSLTRHTRTHTGEKPFQCRICMRNFSRT
EHLARHLRTHTGSQKPFQCRICMRNFSQSAHLKRHTRTHTGEKPFQCRICMRNFSRTEHLAR
HLRTHTGGGGSQKPFQCRICMRNFSHKSSLTRHTRTHTGEKPFQCRICMRNFSRPESLAPHL
RTHLRGSGGGSMDAKSLTAWSRTLVTFKDVFVDFTREEWKLLDTAQQIVYRNVMLENYK
NLVSLGYQLTKPDVILRLEKGEEPWLVEREIHQETHPDSETAFEIKSSV (italics: DNMT3A;
 Bold: DNMT3L; underline: KRAB)

[0498] Example 3: guide RNA design.

[0499] Cas9 protospacers are chosen based on homology from sequences that perfectly match or nearly perfectly match spacer sequences in target DNA sequences and predicted by the MIT Specificity Score (calculated by <http://crispor.tefor.net/>).

[0500] gRNA protospacer sequences that would permit epigenetic editors containing a Streptococcus pyogenes Cas9, or another Cas that can use the NGG PAM, to recognize the protospacer sequences identified throughout the target gene. gRNAs containing spacers of 20nts and

a total length of 100nts are synthesized. gRNAs are co-transfected with mRNA encoding the Cas9 epigenetic editor fusion protein into primary human hepatocytes via MessengerMax

Testing DNA demethylation domains: To test the functionality of candidate domains for removing DNA methylation, the domain is fused to a DNA-binding domain for testing in human cells. The effector domain, identified and extracted from the full protein sequence may be fused to the N-terminal or C-terminal end of any DNA-binding domain, using a variety of linkers. For example, a domain may be fused to Cas9. This fusion protein is then co-delivered into cells, along with a gRNA, using standard cell culture techniques. This may include plasmid transfection or electroporation, mRNA transfection or electroporation, or viral transduction. Because removal of DNA methylation marks at CpG dinucleotides is expected to increase target gene expression, this may be assayed by standard techniques such as RT-qPCR, staining for cell surface marker and quantifying by flow cytometry, ddPCR and Western blotting. Additionally, direct readout of DNA methylation is obtained through bisulfite sequencing. In this method, bisulfite treatment of DNA converts cytosine residues to uracil but leaves 5-methylcytosine residues unaffected. Standard Sanger sequencing or next-generation sequencing can then be performed to determine the rate of methylation at CpG dinucleotides.

[0507] Example 5: alternate DNMT effectors and effector fusions.

[0508] GripTite293 cells were seeded in 96-well plates and transfected with 25 ng of a gRNA-expressing plasmid (targeting VIM), 50 ng of an Effector-DBD fusion plasmid, and 5ng of a Puromycin resistance plasmid using Mirus TransIT transfection reagent. VIM-targeting gRNAs used can be found in SEQ ID NO.: 962-969. Effector-DBD fusions can be found in SEQ ID NO.: ~~1092442~~-11~~3353~~.

[0509] At day 1 post transfection, cells were cultured with Puromycin to select for positively transfected cells. At day 6 or day 7 post transfection, cells were analyzed for VIM expression via FACS (FIG. 2).

[0510] When human-human and human-mouse fusions were tested against plant DNMT effectors and effector fusions, the mammalian fusions exhibited greater VIM silencing (FIG. 3A); similar results were found when the mammalian fusions were compared to DNMT effectors and effector fusions from bacteria, fungi, and *Drosophila* (FIG. 3B).

[0511] Example 6: alternate KRAB and non-KRAB repressors.

[0512] GripTite293 cells were seeded in 96-well plates and transfected with 25 ng of a gRNA-expressing plasmid (targeting VIM), 50 ng of a DBD-Effector fusion plasmid, and 5ng of a Puromycin resistance plasmid using Mirus TransIT transfection reagent. VIM-targeting gRNAs used can be found in SEQ ID NO.: 962-969. DBD-Effector fusions can be found in SEQ ID NO.: ~~100222~~-~~41141091~~.

[0513] At day 1 post transfection, cells were cultured with Puromycin to select for positively transfected cells. At day 6 post transfection, cells were analyzed for VIM expression via FACS (FIG 5). Many alternate KRAB and non-KRAB repressors effectively silenced VIM expression.

[0514] Example 7: gene repression.

[0515] GripTite293 cells were seeded in 96-well plates and transfected with 25 ng of a gRNA-expressing plasmid (either single gRNA or 4x (quad) gRNA plasmid targeting CD151 or CLTA), 50 ng of a DBD-Effector fusion plasmid, and 5ng of a Puromycin resistance plasmid using Mirus TransIT transfection reagent. CD151-targeting gRNAs used can be found in SEQ ID NO.: 970-977. DBD-Effector fusion plasmids used can be found in SEQ ID NO.: ~~979978-1021~~[1001](#).

[0516] At day 1 post transfection, cells were cultured with Puromycin to select for positively transfected cells. At day 6 post transfection, cells were analyzed for CD151 or CLTA expression via FACS. FIG 6-7 show that many of the alternate KRAB combination effectively silence CD151.

[0517] While preferred embodiments of the present disclosure have been shown and described herein, it will be obvious to those skilled in the art that such embodiments are provided by way of example only. Numerous variations, changes, and substitutions will now occur to those skilled in the art without departing from the disclosure. It should be understood that various alternatives to the embodiments of the disclosure described herein may be employed in practicing the disclosure. It is intended that the following claims define the scope of the disclosure and that methods and structures within the scope of these claims and their equivalents be covered thereby.

Other Embodiments

[0518] From the foregoing description, it will be apparent that variations and modifications may be made to the disclosure described herein to adopt it to various usages and conditions. Such embodiments are also within the scope of the following claims.

[0519] The recitation of a listing of elements in any definition of a variable herein includes definitions of that variable as any single element or combination (or subcombination) of listed elements. The recitation of an embodiment herein includes that embodiment as any single embodiment, any portion of the embodiment, or in combination with any other embodiments or any portion thereof.

[0520] As is set forth herein, it will be appreciated that the disclosure comprises specific embodiments and examples of base editing systems to effect a nucleobase alteration in a gene and methods of using same for treatment of disease including compositions that comprise such base editing systems, designs and modifications thereto; and specific examples and

GFP7-ZF7	878	DSSVLRR	919	QRSDLTR	960	QGGTLRR
GFP7-ZF8	879	DSSVLRR	920	TKQILGR	961	QSTTLKR

SEQ ID NO	Description	Sequence
962	SPACER	GCCTACCGCAGGATGTTCGG
963	SPACER	GGCCCGGGGACGAGGCGTAG
964	SPACER	GCGCACGGCAGAGGAGCGCG
965	SPACER	GCCCTCGTTCGCTCTTCTC
966	TRACR	GTTTAAGAGCTAAGCTGGAAACAGCATAGCAAGTTTAAATAAGG CTAGTCCGTTATCAACTTGAAAAAGTGGCACCGAGTCGGTGCTTT TTTT
967	TRACR	GTTTAAGAGCTAAGCTGGAAACAGCATAGCAAGTTTAAATAAGG CTAGTCCGTTATCAACTTGAAAAAGTGGCACCGAGTCGGTGCTTT TTTT
968	TRACR	GTTTAAGAGCTAAGCTGGAAACAGCATAGCAAGTTTAAATAAGG CTAGTCCGTTATCAACTTGAAAAAGTGGCACCGAGTCGGTGCTTT TTTT
969	TRACR	GTTTAAGAGCTAAGCTGGAAACAGCATAGCAAGTTTAAATAAGG CTAGTCCGTTATCAACTTGAAAAAGTGGCACCGAGTCGGTGCTTT TTTT
970	SPACER	GTGTCCAGGGACAATGAGCA
971	SPACER	GCGGCCCGGAGCCTACGAGG
972	SPACER	GCGGCGGCGGCAGCAGCTGCG
973	SPACER	GCCGGACTCGGACGCGTGGT
974	TRACR	GTTTAAGAGCTAAGCTGGAAACAGCATAGCAAGTTTAAATAAGG CTAGTCCGTTATCAACTTGAAAAAGTGGCACCGAGTCGGTGCTTT TTTT
975	TRACR	GTTTAAGAGCTAAGCTGGAAACAGCATAGCAAGTTTAAATAAGG CTAGTCCGTTATCAACTTGAAAAAGTGGCACCGAGTCGGTGCTTT TTTT
976	TRACR	GTTTAAGAGCTAAGCTGGAAACAGCATAGCAAGTTTAAATAAGG CTAGTCCGTTATCAACTTGAAAAAGTGGCACCGAGTCGGTGCTTT TTTT
977	TRACR	GTTTAAGAGCTAAGCTGGAAACAGCATAGCAAGTTTAAATAAGG CTAGTCCGTTATCAACTTGAAAAAGTGGCACCGAGTCGGTGCTTT TTTT
978998	DNMT3A-3L-ZF-KRAB (ZF is GFP1-ZF1)	<u>MAPKKKRMNHDQEFDPKVVPPVPAEKRPVLSLFDGIATGLLVL</u> <u>KDLGIQVDRIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWG</u> <u>PFDLVIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDR</u> <u>PFFWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWGNL</u> <u>PGMNRPLASTVNDKLELOECLEHGRIAKFSKVRTITTRSNSIKQKDOHF</u> <u>PVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLGRSWSPV</u> <u>IRHLFAPLKEYFACVSSGNSNANSRGPSSFSSGLVPLSLRGSHMGPM</u> <u>IYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGGGTLK</u> <u>YVEDVTNVVRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYMEQ</u> <u>FHRILQYALPRQESQRPFWFIFMDNLLLTEDDQETTTRFLQTEAV</u> <u>TLQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEEYLQAQVR</u> <u>SRSKLDAPKVDLLVKNCLLPLREYFKYFSQNSLPLSGGGSGSGGG</u> <u>SVGIHGVPSPRGERPFQCRICMRNFSHKSSLTRHTRTHTGEKPFQCR</u> <u>CMRNFSTRTEHLARHLRTHTGTSQKPFQCRICMRNFSQSAHLKRHTR</u> <u>HTGEKPFQCRICMRNFSRTEHLARHLRTHTGSGGSGKPFQCRICMR</u> <u>FSHKSSLTRHTRTHTGEKPFQCRICMRNFSRPESLAPHLRTHLRGSG</u> <u>GSMDAKSLTAWSRTLVTFKDVFDFTREEWKLLDTAQQIVYRNVM</u>

		<u>LENYKNLVSLGYQLTKPDVILRLEKGEEPWLVEREIHQETHPDSETA FEIKSSV</u>
979999	DNMT3A/ L- dSpCas9- XTEN16- ZIM3	MNHDQEFDPKVPVPAEKRKPIRVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLESNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDA KLQSKDITYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK NLPNEKVLPHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKKIHKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKGILQTVKVVDLVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVLKMKKNYWRQLLNAKLITQRKFDNLTKAERGGSELDAKAGFIK QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKVREINNYHHAHDAYLNAVVGTA LIKYPKLESEFVYGDYKVYDVRKMI AKSEQEIGKATAKYFFYSNIMNFFKTEIT LANGEIRKRPLIETNGETGEIVWDKGRD FATVRKVL SMPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDS PTVAYSVLVVAKEKGKSKKLKSVKELLGIT IMERSSSFENPIDFLEAKGYKEVKKDLI IKLPKYSLFELENGRKRMLASAGELQKGNEL ALPSKYVNFLYLASHYEKLKGSPE DNEQKQLFVEQHKHYLDEIIEQISEFSK RVILADANLDKVL SAYNKH RDKPIREQAENIIHLFTLTNLGAPAAFKY FDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKVSGSET PGTSESATPESTGMNNSQGRVTFEDVT VNFTQGEWQRLNPEQRNLYRDV MLENYSNL VSVGQGETTKPDVILRLEQ GKEPWLEEEVLGSGRAEKNGDIGGQIW KPKDV KESL
980100 θ	DNMT3A/ L- dSpCas9- XTEN16- HP1b	MNHDQEFDPKVPVPAEKRKPIRVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLESNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS

		<p> HMGPMEIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDA KLQSKDQYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPKEYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGASQSFIERMTNFDK NLPNEKVLPKHSLLEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKKIKDKDFLDNEENEDILEDIVLTTLTFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGKELGSQLKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD F RKDFQFYKVVREINNYHHAHDAYLNAVVGTA LIKYPKLESEFVYGDYKVYDVRKMIAKSE QEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDK LIARKKDWDPKKYGGFDSPTVAYSVLVVA KVEKGKSKKLKSVKELLGITIMERS SSFENPIDFLEAKGYKEVKDLIILPKYSL FELENGRKRMLASAGELQKGNELALPSKY VNFLYLASHYEKLKGSPEDEQKQLFVEQ HKHYLDEIIEQISEFSKRVILADANLDKVL SAYNKHARDKPIREQAENIHLFTLTNLGA PAAFKYFDTTIDRKRYTSTKEVLDATLIHQ SITGLYETRIDLSQLGGDPKKKRKVSGSE TPGTSESATPESTGMGKKQNKKKVEEV LEEEEEEYVVEKVLDRRVVKGKVEYLLK WKGFSDEDN TWEPEENLDCPDLIAEFLQSQKTAHETDK SEGGRKADSDSEDKGEESKPKKKKEESEK PRGFARGLEPERIIGATDSSGELMFLMK WKN SDEADLVP AKEANVKCPQVVISFY EERLTWHSYPSEDDDKKD DKN </p>
<div>981400</div> <div>±</div>	DNMT3A/ L- dSpCas9- XTEN16- RYBP	<p> MNHDQEFDPKVPVPAEKRP IRVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRH QGKIMYVGDVRSVTQKH IQEWGPFDLVIGGSPCNDL SIVNPARKGLYEGTGRLFF EFYRLLHDARPKEGDDRP F FWFLENV VAMGVSDKRD ISRFLESNPV MIDAKEVSA AHRARYFWG NLPGMNRPLASTVNDKLE LQECLEHGRIAKFSKVRTIT TRSNSIKQGKDQHF PVMNEKEDILWCTEMER VFGFPVHYTDVSNMSRLAR QRLLG RSWSV PVIRHLFAPLKEYFACV SSGNSNANSRGPSFSSGL VPLSLRGS HMGPMEIYKTV SAWKRPVRVLSLFRNIDK VLKSLGFLESGSGGG GTLKYVEDVTNVVRRD VEKWGPFDLVYGSTQPL GSSCDRCPGWYMFQF HRILQYALPRQESQRP FFWIFMDNLLLTEDDQ ETTTFLQTEAVTLQD VRGRDYQNAMRVWSNIP GLKSKHAPLTPKEEYLL QAQVRSRSKLDAPK VDLLVKNCLLPLREYFK YFSQNSLPLGGPSSGAP PPSGGSPAGSPTSTEE GTSESATPESGPGTST EPSEGSAPGSPAGSPT STEEGTSTEPS EGSAP GTSTEPSEPKKKRKVY MDKKYSIGLAIGTNSV GWAVITDEYK </p>

		<p>VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAQL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPKEYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK NLPNEKVLPHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKKIHKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA KILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGELGSQILKEHPVENTQLQNEKLYLYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGSELDAKAGFIK QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKREINNYHHAHDAYLNAVVGTAIKKYPKLESEFVYGD YKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNVKKTETVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVAKVEKG KSKKLKSVKELLGITIMERSSEFKNPIDFLEAKGYKEVKKDLIILPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLG SPEDNEQQLFVEQHKHYLDEIEQISEFSKRVLADANLKVLSAYN KHRDKPIREQAENIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQITGLYETRIDLSQLGGDPKKRKYSGSETPGTSESATPEST GPSEANSIQSANATTKTSETNHTSRPRLKNVDRSTAQQLAVTVGNVT VIITDFKEKTRSSSTSSSTVTSSAGSEQNQSSS</p>
982100 2	DNMT3A/ L- dSpCas9- XTEN16- ZFP28	<p>MNHDQEFDPKVPVPAEKRKPIRVLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRQPVRLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLQAQVRSRSL LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAQL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPKEYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK</p>

		<p>NLPNEKVLPKHSLLEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKVVDDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEEGIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKVINNYHHAHDAYLNAVVGTAIKKYPKLESEFVYGD YKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNVKKTVEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEVG KSKKLKSVKELLGITIMERSSEFKNPIDFLEAKGYKEVKKDLIILPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFYLAHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHARDKPIREQAENIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYETRIDLSQLGGDPKKRKVSGSETPGTSESATPEST GNKKLEAVGTGIEPKAMSQGLVTFGDVAVDFSQEEWEWLNPIQRNL YRKVMLENYRNLASLGLCVSKPDVSSLEQKKEPW</p>
983100 3	DNMT3A/ L- dSpCas9- XTEN16- ZN627	<p>MNHDQEFDPKVPVPAEKRPVLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRQPVRLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRRLLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSAAILSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGASAQSFIERMTNFDK NLPNEKVLPKHSLLEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKVVDDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEEGIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD</p>

		<p>RKDFQFYKVVREINNYHHAHDAYLNAVVG TALIKKYPKLESEFVYGD YKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWD PKKYGGFDSPTVAYSVLVVAKVEKG KSKKLKSVKELLGITIMERS SFEKNPIDFLEAKGYKEVKKDLI IKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVLADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKRKVS GSETPGTSESATPEST GDSVAFEDVAVNFTLEEWALLDPSQKNLYRDMRETFRNLASVGK QWEDQNIEDPFIKIPRRNISHIPERLCESKEGGQGEE</p>
<p>984100 4</p>	<p>DNMT3A/ L- dSpCas9- XTEN16- CDYL2</p>	<p>MNHDQEFDPKVPVPPVPAEK RKPVRVLSLFDGIATGLLV LKDLGIQV DRYIASEVCEDSITVGMVRHQ GKIMYVGDVRSVTQKHIQEWGPF DL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRPF FWLFENVVAMGVSDKRDISR FLESNPVMIDAKEVSA AHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQ GK DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRL LG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFS SGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLG FLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLL TEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEE EYLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEP KKKRKYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFS NEMAKVDDSFHRLEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLR LIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRRENLI AQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKDTYDDDLDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGAS AQSFIERMTNFDK NLPNEKVLPHSLLYEYFTVYNELTKVKYVTEGM RKPAPLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IK KGILQTVKVVDLVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIE EGikelGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKS KLVSDF RKDFQFYKVVREINNYHHAHDAYLNAVVG TALIKKYPKLESEFVYGD YKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWD PKKYGGFDSPTVAYSVLVVAKVEKG KSKKLKSVKELLGITIMERS SFEKNPIDFLEAKGYKEVKKDLI IKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVLADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKRKVS GSETPGTSESATPEST</p>

		GASGDLYEVRIVDKRKNKKGKWEYLIRWKGYGSTEDTWEPEHHL LHCEEFIDEFNLHMSKDKRIKSGKQSSTSKLLRDS
985100 5	DNMT3A/ L- dSpCas9- XTEN16- TOX	MNHDQEFDPKVPVPAEKRPVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGGG GTLKYVEDVTNVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYELQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKYVMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLAHAMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDA KLQSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK NLPNEKVLPHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKKIHKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKGILQTVKVVDLVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGKELGSQLKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVLKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKVREINNYHHAHDAYLNAVVGTA LIKYPKLESEFVYGDYKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSEFKNPIDFLEAKGYKEVKKDLIILPKYSLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYNKHARDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKYVSGSETPGTSESATPESTGKDPNEPQKPV SAYALFFRDTQAAIKGQNP NATFGEVSKIVASMWDGLGEEQKQVYKKKTEAAKKEYLKQLAAYRASLVSK
986100 6	DNMT3A/ L- dSpCas9- XTEN16- SCMH1	MNHDQEFDPKVPVPAEKRPVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGGG

		<p>GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTTFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEEYLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDA KLQSKDQYDDDLNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGASQSFIERMTNFDK NLPNEKVLPHKSLLEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD F RKDFQFYKVRINNYHHAHDAYLNAVVGTA LIKYPKLESEFVYGDYKVYDVRKMI AKSEQEIGKATAKYFFYSNIMNFFKTEIT LANGEIRKRPLIETNGETGEIVWDKGRD FATVRKVL SMPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDS PTVAYSVLVVAKEKGKSKKLKSVKELLGIT IMERSSSFENPIDFLEAKGYKEVKDLI IKLPKYSLFELNGRKRMLASAGELQKGNELAL PSKYVNFLYLASHYEKLGKSPEDNEQKQLF VEQHKHYLDEIIEQISEFSKRVILADANLDK VLSAYNKH RDKPIREQAENIIHLFTLTNLGA PAAFKYFDTTIDRKRYTSTKEVLDATLIHQ SITGLYETRIDLSQLGGDPKKKRKVSGSET PGTSESATPESTGDASRLSGRDPSSWTVE DVMQFVREADPQLGPHADLFRKHEIDGKA LLLLRSDMMM KYMGLKLGPALKLSYHIDRL KQKGF</p>
987409 7	DNMT3A/ L- dSpCas9- XTEN16- SCML2	<p>MNHDQEFDPKVPYPPVPAEKRP PIRVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYV GDVRSVTQKHIQEWGPFDLVIGGSPCNDL SIVNPARKGLYEGTGRLFFEFYRL LHDARPKEGDDRPF FWLFENVVAMGVSD KRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRI AKFSKVRTITTRSNSIKQGKDQHFPVFM NEKEDILWCTEMERVFGFPVHYTDVSN MSRLARQRLG RSWSPVIRHLFAPLKEY FACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMEIYKT VSAWKRQPVRVLSLFRNID KVLKSLGFLESGSGGGTLKYVEDVTNVVRRD VEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLL TEDDQETTTTFLQTEAVT LQDVRGRDYQ NAMRVWSNIPGLKSKHAPLTPKEEEYLQAQ VRSRSKLDAPKVDLLVKNCLLPLREYFKYFS QNSLPLGGPSSGAPPPSGGSPAGSPTSTEEGT SESATPESGPGTSTEPSEGSAPGSPAGSPTST EEGTSTEPS EGSAPGTSTEPSEPKKKRKVYMD KKYSIGLAIGTNSVGWAVITDEYK VPSKKFK VLGNTDRHSIKKNLIGALLFDSGETAEATRLK RTARRRYT RRKNRICYLQEIFSNEMAKVDDSF HRLVESFLVEEDKKHERHPIFGN IVDEVAYH EKYPTIYHLRKKLVDSTDKADLRLIYLALAH MIKFRGHF LIEGDLNPDNSDVKLFIQLVQTY NQLFEENPINASGVDAKAILSARL</p>

		<p>SKSRRLLENLIAQLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK NLPNEKVLPKHSLLEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA KILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEIGIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVLKMKKNYWRQLLNAKLITQRKFDNLTKAERGGSELDAKAGFIK QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKVRINNYHHAHDAYLNAVVGTA LIKYPKLESEFVYGD YKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEVKDLIIKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKRKVS GSETPGTSESATPEST GKQGF SKDPSTWSVDEVIQFMKHTDPQISG PLADLFRQHEIDGKALF LLKSDVMMKYMGLKLGPALKLCYIEKLEK GKYS</p>
988100 &	DNMT3A/ L- dSpCas9- XTEN16- CBX8	<p>MNHDQEFDPKVPYPPVPAEKRP PIRVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYV GDVRSVTQKHQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRL FFEFYRLHHDARPKGDDRPF FWLFENVVAMGVSDKRDISRFL ESNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHG GRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFG FPVHYTDVSNMSRLARQRLG RSWSVPVIRHLFAPLKEYFACVSSG NSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRQPVRLSLFRN IDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDL VYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMD NLLLTEDDQETTTFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKH APLTPKEEYLLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQ NSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSE GSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKRKVMYMDK KYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALL FDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFH RLEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDST DKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQL FEENPINASGVDAKAILSARL SKSRRLLENLIAQLPGEKKNGLFGNLI ASLGLTPNFKSNFDLAEDAKL QLSKDTYDDDLNLLAQIGDQYADLFL AAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKAL VRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMD GTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFP FLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEE VVDKGASAQSFIERMTNFDK NLPNEKVLPKHSLLEYEFTVYNELTK VKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIE CFDSVEISGVEDRFNASLGT YHDLLKIIKDKDFLDNEENEDILEDIV LTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLIN GIRDKQSGKTILDFLKSDG</p>

		<p>FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIK KGILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKMKKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSDF RKDFQFYKVVREINNYHHAHDAYLNAVVGTAIHKYPKLESEFVYGD YKVYDVRKMKIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNIKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSEKKNPIDFLEAKGYKEVKKDLIKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYETRIDLSQLGGDPKKRKRKVSGETPGTSESATPEST GSGPPSSGGGLYRDMGAQGGRPSTLIARIPVARILGDPEEESWSPSLT NLEKVVVTDVTSNFLTVTIKESNTDQGFFKEKR</p>
<p>989100 9</p>	<p>DNMT3A/ L- dSpCas9- XTEN16- TOX3</p>	<p>MNHDQEFDPKVPVPAEKRKPIRVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQKIMYVGDVRSVTQKHIEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLHHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFVPFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLG RSWSPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFWFMDNLLLTEDDQETTTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKYVMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLLESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRRLLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGASAQSFIERMTNFDK NLPNEKVLPHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIK KGILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKMKKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSDF RKDFQFYKVVREINNYHHAHDAYLNAVVGTAIHKYPKLESEFVYGD YKVYDVRKMKIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNIKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG</p>

		KSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKRKVSGETPGTSESATPEST GKDPNEPQKPV SAYALFFRDTQAAIKGQNP NATFGEVSKIVAS MWD SLGEEQKQVYKRKTEAAKKEYLKALAA YRASLVSK
990101 θ	DNMT3A/ L- dSpCas9- XTEN16- TOX4	MNHDQEFDPKVPVPAEKRPVLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRHQKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLESNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYELQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKRKYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFS NEMAKVDDSFHRL EESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDA KL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGASAQSFIERMTNFDK NLPNEKVLPHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IK KGILQTVKVVDLVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIE EG I KELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKS KLVSDF RKDFQFYK VREINNYHHAHDAYLNAVVG TALIKKYPKLESEFVYGD YKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWD PKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKRKVSGETPGTSESATPEST GKDPNEPQKPV SAYALFFRDTQAAIKGQNP NATFGEVSKIVAS MWD SLGEEQKQVYKRKTEAAKKEYLKALAA YKDNQECQ
991401 +	DNMT3A/ L- dSpCas9-	MNHDQEFDPKVPVPAEKRPVLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRHQKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLDARPKEGDDRPF

	XTEN16- I2BP1	FWLFENVVAMGVSDKRDISRFLESNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQGK DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPFSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEEYLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDA QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK NLPNEKVLPKHSLLEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA KIGILQTVKVVDDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSDF RKDFQFYKREINNYHHAHDAYLNAVVGTA LIKYPKLESEFVYGD YKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNVKKT EVQTTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYS VLVAKVEKG KSKKLKSVKELLGITIMERS SSFENPIDFLEAKGYKEVKDLI IKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIEQISEFSKRVILADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKR KVSGSETPGTSESATPEST GASVQASRRQWCYLC DLPKMPWAMVWDFSEAVCRGCVNFEGADR IELLIDAAARQLKRSHVLPEGRSPGPPALKHPATKDLA
992101 2	DNMT3A/ L- dSpCas9- XTEN16- MBD2	MNHDQEFDPKVPVPAEKRP IRVLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRH QGKIMYVGDVRSVTQKH IQEWGPFDL VIGGSPCNDLSIVNPARKGL YEGTGRLFFEFYRLLHDAR PKEGDDRPF FWLFENVVAMGVSDKRDISRFLESNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQGK DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPFSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEEYLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS

		<p>EGSAPGTSTEPSEPKKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGASAQSFIERMTNFDK NLPNEKVLPKHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKKIHKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA KGIQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGSELDAKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKREINNYHHAHDAYLNAVVGTA LIKYPKLESEFVYGD YKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVAKVEKG KSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEVKKDLIILPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIEQISEFSKRVLADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKKRKVSGSETPGTSESATPEST GMRAHPGGGRCCPEQEEGESAAAGSGAGGDSAIEQGGQGSALAPSP VSGVRREGARGGGGRGRGRWKQAGRGGGVCGRGRGRGRGRGRGRG RGRGRGRPPSGGSGLGDDGGGCGGGGSGGGGAPRREPVPFPGSAG PGPRGPRATESGKRMDCPALPPGWKKEEVIRKSGLSAGKSDVYFSP SGKKFRSKPQLARYLGNTVDLSSFDERTGKMMPSKLQKNKQRLRND PLNQNKGKPDNLNTLPIRQTASIFKQPVT KVTNHPSNKKVSDPQRMN EQPRQLFWEKRLQGLSASDVTEQIIKT MELPKGLQG VGP GSNDETLL SAVASALHTSSAPITGQVSAAVEKNPAVWLNTS QPLCKAFIVTDEDI RKQEERVQQVRKKLEEALMADILSRAADTEEMDIEMDSGDEA</p>
<div>993401</div> <div>3</div>	DNMT3A/ L- dSpCas9- XTEN16- SetDB1	<p>MNHDQEFDPKVPYPPVPAEKRP PIRVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGD VRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRL LHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEV SAAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSK VRTITTRSNSIKQK DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDV SNMSRLARQRLLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPS FSSGLVPLSLRGS HMGPMIYKTVSAWKRQPVRLSLFRNIDKVLKSLG FLES SGSGG GTLKYVEDVTNVRRDVEKWGPFDLVYGSTQPLGSS CDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQ ETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEE EYLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSG APPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGS PTSTEEGTSTEPS EGSAPGTSTEPSEPKKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGN</p>

		IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGASQAQSFIERMTNFDK NLPNEKVLPHKSLLEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKKIHKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA KILQTVKVVDLVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKVREINNYHHAHDAYLNAVVGTA LIKYPKLESEFVYGD YKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYS VLVAKVEKG KSKKLKSVKELLGITIMERSSEFKNPIDFLEAKGYKEVKKDLIKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKRKVS GSETPGTSESATPEST GMSSLPGCIGLDAATATVESEEIAELQQAVVEELGISMEELRHFIDEE LEKMDCVQQRKKQLAELETWVIQKESEVAHVDQLFDDASRAVTNC ESLVKDFYSKLGLQYRDSSSEDESSRPTEIIEIPDEDDDLVLSIDSGDAG SRTPKDQKLREAMAALRKSAQDVQKFMDAVNKKSSSQDLHKGTLS QMSGELSKDGLIVSMRILGKKRTKTWHKGT LIAIQT VGP GKKYKV KFDNKGKSLLSGNHIA YDYHPPADKLYVGS RVVAKYKDG NQVWLY AGIVAETPNVKNKL RFLIFFDDGYASYVTQSELYPICRPLKKTWEDIE DISCRDFIEEYVTAYPNRPMVLLKSGQLIKTEWEGTWWKSRVEEVD GSLVRILFLDDKRCEWIYRGSTRLEPMFSMKTSSASALEKKQQLRT RPNMGAVRSKGPVVQYTQDLTGTGTQFKPVEPPQPTAPPAPPFP PAP PLSPQAGDS DLESQLAQSRKQVAKKST SFRPGSVGSGHSSPTSPALSE NVSGGKPGINQTYRSPLGSTASAPAPSALPAPPAPPVFHGM LERAPAE PSYRAPMEKLFYLPHVCSYTCLSRVRPMRNEQYRGKNPLLVPLLYD FRMTARRRVNRKMGFHV IYKTPCGLCLRTM QEIERYL FETGCD FLF LEMFC LDPYVLVDRKFQPYKPFY YILDITYGKEDVPLSCVNEIDTTPP PQVAYS KERIPGKGVFINTGPEFLVGCDCKDGCRDKSKCACHQLTIQ ATACTPGGQINPNSGYQYKRLEECLPTGVYECNKRCCKDPNMCTNR LVQHGLQVRLQLFKTQNKGWGIRCLDDIAKGSFVCIYAGKILTDDFA DKEGLEMGDEYFANLDHIESVENFKEGYESDAPCSDSSGVDLKDQ EDGNSGTEDPEESNDDSSDDNFCKDEDFSTSSVWRSYATRRQTRGQ KENGLSETTSKDSHPPDLGPPHIPVPPSIPVGGCNPPSSEETPKNKVAS WLSCNSVSEGGFADSDSHSSFKTNEGGEGRAGGSRMEA EKASTSGL GIKDEGDIKQAKKEDTDDRNMKMSVVTESSRNYGYNPSPVKPEGLRR PPSKTSMHQSRRLMASAQSNPDDVLTLSSTESEGESGTSRKPTAGQ TSATAVDSDDIQTISSGSEGDDFEDKKNMTGPMKRQVAVKSTRGFA LKSTHGIAIKSTNMA SVDKGESAPVRKNTRQFYDGEESCYIIDAKLE GNLGRYLNHSCSPNLFVQNVFVDTHDLRFPWVAFFASKRIRAGTELT WDYNYE VGSVEGKELLCCCGAIECRGRL
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<p>994101 4</p>	<p>DNMT3A/ L- dSpCas9- XTEN16- MeCP2</p>	<p>MNHDQEFDPKVPVPAEKRRPIRVLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLDARPKEGDDRRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRQPVRLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEEYLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDA KLQSKDITYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK NLPNEKVLPHKSLLEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKGILQTVKVVDLVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEEGIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDIRLSDYDVAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPVSE EVVKMKKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD F RKDFQFYKVVREINNYHHAHDAYLNAVVGTA LIKKYPKLESEFVYGDYKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEVKKDLIILPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKRKVSGETPGTSESATPEST GMVAGMLGLREEKSEDQDLQGLKDKPLKFKKVKKDKKEEKEGKH EPVQPSAHHSAEPAEAGKAETSEGSGSAPAVPEASASPKQRRSIIRDR GPMYDDPTLPEGWTRKLKQRKSGRSAGKYDVYLINPQGKA FRSKVELIAYFEKVGDTSLDPNDFDFTVTGRGSPSRREQPKPKPKSPKAPGTG RGRGRPKGSGTTRPKAATSEG VQVKRVLEKSPGKLLVKMPFQTSPG GKAEGGGATTSTQVMVIKRPGRKRKA EADPQAIPKKRGRKPGSVVA AAAAEAKKKAVKESSIRSVQETVLP IKKRKTRETVSIEVKEVVKPLL VSTLGEKSGKGLKTCKSPGRKSKES SPKGRSSASSPPKKEHHHHHH HSESPKAPVPLLPLPPPPPEPESEDPT SPPEPQDLSSSVCKEEKMPRG GSLESDGCPKEPAKTQPAVATAATAA AEKYKHRGEGERKDIVSSMP RPNREEPVDSRTPVTERVS</p>
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<div data-bbox="188 1046 285 1108" data-label="Text"> <p>995101 5</p> </div>	<div data-bbox="309 996 446 1162" data-label="Text"> <p>DNMT3A/ L- dSpCas9- XTEN16- Kap1</p> </div>	<p>MNHDQEFDPKVVPPVPAEKRRPIRVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLDARPKEGDDRRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRQPVRLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTTFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEEYLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDA KLQSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNRDILLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK NLPNEKVLPHKSLLEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKGILQTVKVVDLVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEEGIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDIRLSDYDVAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKMKKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD F RKDFQFYKVREINNYHHAHDAYLNAVVGTA LIKKYPKLESEFVYGDYKVYDVRKMI AKSEQEIGKATAKYFFYSNIMNFFKTEIT LANGEIRKRPLIETNGETGEIVWDKGRD FATVRKVLSPQVNIKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDS PTVAYSVLVVAKEKGKSKKLKSVKELL GITIMERSSSFENPIDFLEAKGYKEVKD LIKLPKYSLFELNGRKRMLASAGELQKGN ELALPSKYVNFLYLASHYEKLKGSPE DNEQKQLFVEQHKHYLDEIIEQISEFSK RVILADANLDKVL SAYNKH RDKPIREQAENIIHLFTLTNLGAPAAFKY FDTTIDRKRYTSTKEVLDATLIHQ SITGLYETRIDLSQLGGDPKKRKVSGSE TPGTSESATPESTGMAASAAAASAAA AASAGSPGPGEGSAGGEKRSTAPSAA SASASAAASSPAGGGAEALELLEHCGV CRERLRPEREPRLLPCLHSACSACL GPAAPAAANSSGDGGAAGDGTVD CVPCKQQCFSKDIVENYFMRD SGSKAATDAQDANQCCTSCEDNAPAT SYCVECSEPLCETCVEAHQ RVKYTKDHTVRSTGPAKSRDGERTVY CNVHKHEPLVLFCESCDTLTC RDCQLNAHKDHQYQFLEDAVRNQRK LLASLVKRLGDKHATLQKSTKEVR SSIRQVSDVQKRQVQDVKMAILQIM KELNKRGRVLVNDQKVTEGQ QERLERQHWTMTKIQKHQEHILRFAS WALESNNNTALLLSKKLIYFQL HRA LKMIVDPVEPHGEMKFQWDLNAWTK SAEAFGKIVAE RPGTNSTGPAPMA PPAPGPLSKQSGSSQPMEVQEGYGF GSGDDPYSSAEPHVSGVKRSRSGE GEVSGLMRKVPRVSLERLDDLTA DSQPPVFKVFPGSTTEDYNLIVIERG AAAAAATGQPGTAPAGTPGAPPLA GMA</p>
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		IVKEEETEAAIGAPPTATEGPETKPVLMALAEGPGAEGPRLASPSGST SSGLEVVAPEGTSAPGGPGTLDSDSATICRVCQKPGDLVMCNQCEFC FHLDCPLPALQDVPGEWSCSLCHVLPDLKEEDGSLSLDGADSTGV VAKLSPANQRKCERVLLALFCHEPCRPLHQLATDSTFSLDQPGGTLD LTLIRARLQEKLSPPYSSPQEFAQDVGRMFKQFNKLTEDKADVQSIIG LQRFETRMNEAFGDTKFSAVLVEPPPMSLPGAGLSSQELSGGPGDG P
996101 6	DNMT3A/ L- dSpCas9- XTEN16- HP1a	MNHDQEFDPKVPVPAEKRPVLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRHQKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLESNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPFSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLAALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGGASAQSFIERMTNFDK NLPNEKVLPHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA KGILQTVKVVDLKVVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSDF RKDFQFYKVRINNYHHAHDAYLNAVVGTA LIKYPKLESEFVYGD YKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEVKKDLIKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKKRKVSGSETPGTSESATPEST GMGKKTKRTADSSSSSEDEEYVVEKVLDRRVVKGQVEYLLKWKG F SEEHNTWEPEKNLDCPELISEFMKKYKKMKEGENNKP REKSES NKR KSNFNS SADDIKSKKKREQSNDIARGFERGLEPEKIIGATDSCGDL MF LMKWKG TDEADLV LAKEANVKCPQIVIAFY EERLTWHAYPEDAEN KEKETAKS

<p>997401 7</p>	<p>DNMT3A/ L- dSpCas9- XTEN16- EED</p>	<p>MNHDQEFDPKVPVPAEKRKPIRVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLDARPKEGDDRRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRQPVRLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEEYLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDA KLQSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK NLPNEKVLPHKSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKGILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEEGIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVVKMKKNYWRQLLNAKLITQRKFDNLTKAERGGSELDAKAGFIK RQLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD F RKDFQFYKVBREINNYHHAHDAYLNAVVGTA LIKKYPKLESEFVYGDYKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNIKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEVKKDLIILPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYNKHARDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYETRIDLSQLGGDPKKRKVSGSETPGTSESATPEST GMSEREVSTAPAGTDMPAACKQKLSSDENSNDLSGDENDDDAVSIE SGTNTERPDTPNTNPNAPGRKSWGKGKWKSKKCKYSFKCVNSLKED HNQPLFGVQFNWHSKEGDPLVFATVGSNRVTLYECHSQGEIRLLQS YVDADADENFYTCAWTYDSNTSHPLLAVAGSRGIIRIINPITMQCIKH YVGHGNAINELKFHPRDPNLLSVSKDHALRLWNIQTDTLVAIFGGV EHRDEVLSADYDLLGEKIMSCGMDHSLKLWRINSKRMMNAIKESY DYNPNKTNRPFISQKIHFPDFSTRDIHRNYVDCVRWLGLILSKSCEN AIVCWKPGKMEDDIDKIKPSESNVTILGRFDYSQCDIWYMRFSMDF WQKMLALGNQVGKLYVWDLEVEDPHKAKCTTLTHHKCGAAIRQT SFSRDSSILIAVCDDASIWRWDRLR</p>
<p>998401 8</p>	<p>DNMT3A/ L-</p>	<p>MNHDQEFDPKVPVPAEKRKPIRVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL</p>

	dSpCas9- XTEN16- RBBP4	VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRRPF FWLFENVVAMGVSDKRDISRFLESNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGASAQSFIERMTNFDK NLPNEKVLPKHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIK KGILQTVKVVDLVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKMKKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSDF RKDFQFYKVINNYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGD YKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNIKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSEFKNPIDFLEAKGYKEVKKDLIILPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSIITGLYETRIDLSQLGGDPKKRKVSGSETPGTSESATPEST GMADKEAAFDDAVEERVINEEYKIWKKNTPFLYDLVMTHALEWPS LTAQWLPDVTREPGKDFSIHRLVLGTHTSDEQNHLVIASVQLPNDDA QFDASHYDSEKGEFGGFGSVSGKIEIEIKINHEGEVNRARYMPQNPCI ATKTPSSDVLVFDYTKHPSKPDPSGECNPDLRLRGHQKEGYGLSWN PNLSGHLASADDHTICLWDISAVPKEGKVVDAAKTIFTGHTAVVEDV SWHLLHESLFGSVADDQKLMIWDTRSNNTSKPSHSVDAHTAEVNCL SFNPYSEFILATGSADKTVALWDLRNLKLLHSFESHKDEIFQVQWS PHNETILASSGTDRRLNVWDLISKIGEEQSPEDAEDGPPELLFIHGGHT AKISDFSWNPNEPWVICSVSEDNIMQVWQMAENIYNDEDPEGSVDP EGQGS
999101 9	DNMT3A/ L- dSpCas9-	MNHDQEFDPKVPVPAEKRPVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRRPF FWLFENVVAMGVSDKRDISRFLESNPVMIDAKEVSAHRARYFWG

	XTEN16-RCOR1	NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQGK DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEEYLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLAALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAQL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK NLPNEKVLPKHSLLEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIK KGILQTVKVVDDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGSELDAKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSDF RKDFQFYKVINNYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGD YKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEVKKDLIILPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIEQISEFSKRVLADANLDKVL SAYN KHRDKPIREQAENIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSITEGLYETRIDLSQLGGDPKKRKVSGSETPGTSESATPEST GMPAMVEKGPEVSGKRRGRNNAASASAAAAASAAASACASPAAT AASGAAASSASAAAAASAAAAPNNGQNKSLAAAAPNGNSSSSNSWEE GSSGSSSDEEHGGGGMRVGPQYQAVVPDFDPAKLARRSQERDNLG MLVWSPNQNLSEAKLDEYIAIAKEKHGYNMEQALGMLFWHKHNE KSLADLPNFTPFPDEWTVEDKVLFEQAFSFGKTFHRIQQMLPDKSI ASLVKFYYSWKKTRTKTSVMDRHARKQKRERESEDELEEANGNN PIDIEVDQNKESKKEVPPTETVPQVKKEKHSTQAKNRAKRPKGMF LSQEDVEAVSANATAATTVLRQLDMELVSVKRQIQNIKQTNALKE KLDGGIEPYRLPEVIQKCNARWTTEEQLLAVQAIRKYGRDFQAISDVI GNKSVVQVKNNFFVNYRRRFNIDEVLQEWAEHGKEETNGPSNQKPV KSPDNSIKMPEEEDEAPVLDVRYASAS
100010 20	DNMT3A/ L- dSpCas9- XTEN16- EZH2	MNHDQEFDPKVPYPPVPAEKRPVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQGK

		DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEEYLQAQVRSRK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKYVMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLAHAMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDA KLQSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGASAQSFIERMTNFDK NLPNEKVLPKHSLLEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKGILQTVKVVDLVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGSELDAKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD F RKDFQFYKVINNYHHAHDAYLNAVVGTA LIKYPKLESEFVYGDYKVYDVRKMIAKSE QEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDK LIARKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEV KKDLIILPKYSLFELENGRKRMLASAGELQKGNELALPSKYV NFLYLASHYEKLKGSPEDEQKQLFVEQHKHYLDEIIEQISEF SKRVILADANLDKVL SAYNKH RDKPIREQAENIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKYVSGSETPGTSESATPEST GMGQTGKKSEKGPVCWRKRVKSEYMRLRQLKRFRRADEVKSMFSS NRQKILERT EILNQEWKQRRIQPVHILTSVSSLRG TREC SVTSDLDFTQVIPLKTLNAVASVPIMYSWSPLQ QNFMEDET VLHNIPYMGDEVLDQDGT FIEELIKNYDGKVHGDRECGFINDEIFVELV NALGQYND DDDDDDGDDPEERE EKQKDLEDHRDDKESRPPRKFPSDKIFEAISSMFPD KGTA EELKEKYKELTEQQLPGALPPECTPNIDGPN AKSVQREQLHSFHTLFCRRCFKYDCFLHPFHATPNTYKR KNTETALDNKPCGPQCYQHLEGAKEFAAALTAERIKTP PKRPGGRRRGRLPNNSSRPSTPTINVLESKDTDS DREAGTETGGENNDKEEEEEKDETSSSSEANSRCQTP IKMKPNIEPPENVEWSGAEASMFRLIGTYD NFCAIARLIGTKTCRQVYEFVKESSIIAPAPAEDVDT PPRKKRKHRLWAAHCRKIQLKKDGS SNHVYNYQPCDHPRQPCDSSCPCVIAQNFCEKFCQCSSE CQNRFPGCRCKAQCNTKQCPCYLAVRECDPDLCLTCGAADH WDSKNVSCKNCSIQRGSKKHLLAPSDVAGWGIFIKDPVQKNEF ISEYCGEIIISQDEADRRGKVYDKYMCSFLFNLNNDFVVDAT RKGKIRFANHSVNPNCYAKVMMVNGDHRIGIFAKRAIQ TGEELFFDYRYSQADALKYVGIEREMEIP
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<p>100149 21</p>	<p>:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB-ZIM3</p>	<p>MNHDQEFDPKVPYPPVPAEKRRPIRVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQGK DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRQPVRLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEEYLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDA KLQSKDITYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNRDILLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGASAQSFIERMTNFDK NLPNEKVLPHKSLLEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKKIHKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKGILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEEGIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDIRLSDYDVAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVVKMKKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKS KLVSDFRKDFQFYKVVREINNYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNIKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEVKKDLI IKLPKYSLFELNGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYNKHARDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDR KRYTSTKEVLDATLIHQ SITGLYETRIDLSQLGGDPKKR KRVSGSETPGTSESATPESTGRTL VTFKDVFDFTREEWKLLDTAQQIVYRNV MLENYKNLVSLGYQLTKPDVILRLEK GEEPSTEPSEGSAPGTSTEPSETGMNNSQGRVTF EDVTVNFTQGEWQRLNPEQRNLYRDV MLENYSNLVSVGQGETTKPDVILRLEQGKEP WLEEEVVLGSGRAEKNGDIGGQIWKP KDVKESL</p>
<p>100249 22</p>	<p>:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB-ZFP28</p>	<p>MNHDQEFDPKVPYPPVPAEKRRPIRVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQGK DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRQPVRLSLFRNIDKVLKSLGFLESGSGSGG</p>

		<p>GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDA KLQSKDITYDDDLNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGASQAQSFIERMTNFDK NLPNEKVLPHKSLLEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIK RQLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD F RKDFQFYKVVREINNYHHAHDAYLNAVVGTA LIKYPKLESEFVYGDYKVYDVRKMIAKSE QEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDK LIARKKDWDPKKYGGFDSPTVAYSVLVVA KVEKGKSKKLKSVKELLGITIMERS SSFENPIDFLEAKGYKEVKDLIILPKYSL FELENGRKRMLASAGELQKGNELALPSKY VNFLYLASHYEKLKGSPE DNEQKQLFVEQHKHYLDEIIEQISEFSK RVILADANLDKVL SAYNKH RD KPIREQAENIIHLFTLTNLGAPAAFKY FDTTIDRKRYTSTKEVLDATLIHQ SITGLYETRIDLSQLGGDPKKKRKVSG SETPGTSESATPESTGRTLVT FKDVFVDFTREEWKLLDTAQQIVYRNV MLENYKNLVSLGYQLTKPDVILR LEKGEESTEPSEGSAPGTSTEPSETG NKKLEAVGTGIEPKAMSQGLVTFGD VAVDFSQEEWEWLNPIQRNLYRKV MLENYRNLASLGLCVSKPDV ISSLEQKKEPW</p>
100340 23	:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB-ZN627	<p>MNHDQEFDPKVPYPPVPAEK RKPIRVLSLFDGIATGLLV LKDGLIQVDRYIASEVCE DSITVGMVRHQGKIMYV GDVRSVTQKHIQEWGPF DLVIGGSPCNDLSIVN PARKGLYEGTGRLFFEFY RLLHDARPKEGDDRP PF FWFLENV VAMGVSDKRD ISRFLSNPVMIDAKEV SAAHRARYFWG NLPGMNRPLASTVNDK LELQECLEHGRIAKFSK VRTITTRSNSIKQK GKDQHFPVFMNEKEDIL WCTEMERVFGFPVHYTD VSNMSRLARQRL LGRSWSVPVIRHLFAPL KEYFACVSSGNSNANSR GPSFSSGLVPLSLRGS HMGPM EYKTVSAWKRQPV RVL SLFRNIDKVLKSL GFL ESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGN</p>

		<p>IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAQL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK NLPNEKVLPHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKKIHKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA KILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVVKKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKVREINNYHHAHDAYLNAVVGTA LKKYPKLESEFVYGD YKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYS VLVAKVEKG KSKKLKSVKELLGITIMERSSEKPNIDFLEAKGYKEVKKDLI IKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEK LKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYN KHRDKPIREQAENIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKE VL DATLIHQ SITGLYETRIDLSQLGGDPKKRKRKVSGETPGTSESATPEST GRTLVTFKDVFDFTREEWKLLDTAQQIVYRNVMLENYKNLVSLG YQLTKPDVILRLEKGEESTEPSEGSAPGTSTEPSETGDSVAFEDVAV NFTLEEWALLDPSQKNLYRDMRETFRNLASVGKQWEDQNIEDPFK IPRRNISHIPERLCESKEGGQGEE</p>
100410 24	:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB-RYBP	<p>MNHDQEFDPKVPVPPVPAEKRPVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRQPVRLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKRKVMYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAQL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK</p>

		<p>NLPNEKVLPKHSLLEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKKIHKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA KKGILQTVKVVDDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEEDIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGSELDAKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKVINNYHHAHDAYLNAVVGTAIKKYPKLESEFVYGD YKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNVKKTVEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEVG KSKKLKSVKELLGITIMERSSEFKNPIDFLEAKGYKEVKKDLIKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFYLAHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVLADANLDKVL SAYN KHRDKPIREQAENIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYETRIDLSQLGGDPKKRKVSGSETPGTSESATPEST GRTLVTFKDVFVDFTREEWKLLDTAQQIVYRNVMLENYKNLVSLG YQLTKPDVILRLEKGEEPSTEPSEGSAPGTSTEPSETGPSEANSIQSAN ATTKTSETNHTSRPRLKNVDRSTAQQLAVTVGNVTVIITDFKEKTRS SSTSSSTVTSSAGSEQQNQSSS</p>
<p>100549 25</p>	<p>:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB- CDYL2</p>	<p>MNHDQEFDPKVPVPPVPAEKRPVRLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQGG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLLESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVSTDKADLRLIYLAALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYPLKDNREKIEKILTFRIPYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGASAFIERMTNFDK NLPNEKVLPKHSLLEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKKIHKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA KKGILQTVKVVDDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEEDIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE</p>

		<p> EVVKKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKREINNYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGD YKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSEFEKNPIDFLEAKGYKEVKKDLIIKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIEQISEFSKRVLADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYETRIDLSQLGGDPKKRKVSGSETPGTSESATPEST GRTLVTFKDVFVDFTREEWKLLDTAQQIVYRNVMLENYKNLVSLG YQLTKPDVILRLEKGEEPTSESGSAPGTSTEPSETGASGDLYEVE VDKRKNKKGKWEYLIRWKGYGSTEDTWEPEHLLHCEEFIGDEFNGL HMSKDKRIKSGKQSSTSKLLRDS </p>
100619 26	:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB-TOX	<p> MNHDQEFDPKVPVPPVPAEKRPVLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLHHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLV DSTDKADRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRRLLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKDITYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK NLPNEKVLPKHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA KILQTVKVVDLVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKREINNYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGD YKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSEFEKNPIDFLEAKGYKEVKKDLIIKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG </p>

		SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKVSGSETPGTSESATPEST GRTLVTFKDVFVDFTREEWKLLDTAQQIVYRNVMLENYKNLVSLG YQLTKPDVILRLEKGEEPSTEPSEGSAPGTSTEPSETGKDPNEPQKPV AYALFFRDTQAAIKGQNP NATFGEVSKIVASMDGLGEEQKQVYK KKTEAAKKEYLKQLAAYRASLVSK
100749 27	:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB- SCMH1	MNHDQEFDPKVPVPAEKRKPIRVLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRHQKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLESNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRQPVRLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYQLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLA LAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGASAQSFIERMTNFDK NLPNEKVLPHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKGILQTVKVVDLKVVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIE EG I K E L G S Q I L K E H P V E N T Q L Q N E K L Y L Y Y L Q N G R D M Y V D Q ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSDF RKDFQFYK V R E I N N Y H H A H D A Y L N A V V G T A L I K K Y P K L E S E F V Y G D YK V Y D V R K M I A K S E Q E I G K A T A K Y F F Y S N I M N F F K T E I T L A N G E I R K RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEVKKDLIILPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKVSGSETPGTSESATPEST GRTLVTFKDVFVDFTREEWKLLDTAQQIVYRNVMLENYKNLVSLG YQLTKPDVILRLEKGEEPSTEPSEGSAPGTSTEPSETGDASRLSGRDP SWTVEDVMQFVREADPQLGPHADLFRKHEIDGKALLLLRSDMMM KYMGLKLGPAKLKSYHIDRLKQGGF

<p>100810 28</p>	<p>:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB- SCML2</p>	<p>MNHDQEFDPKVPVPAEKRPVLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQGK DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRQPVRLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEEYLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDA KLQLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNRDILLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK NLPNEKVLPHKSLLEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKKIHKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKGILQTVKVVDLVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEEGIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDIRLSDYDVAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPVSE EVVKMKKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD F RKDFQFYKVVREINNYHHAHDAYLNAVVGTA LIKKYPKLESEFVYGDYKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNIKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEVKKDLIILPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYNKHARDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKVSGSETPGTSESATPEST GRTLVTFKDVFVDFTREEWKLLDTAQQIVYRNVMLENYKNLVSLG YQLTKPDVILRLEKGEEPSTEPSEGSAPGTSTEPSETGKQGFSDPST WSVDEVIQFMKHTDPQISGPLADLFRQHEIDGKALFLKSDVMMKY MGLKLGPAKLCYYIEKLKEGKYS</p>
<p>100910 29</p>	<p>:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB-CBX8</p>	<p>MNHDQEFDPKVPVPAEKRPVLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQGK DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRQPVRLSLFRNIDKVLKSLGFLESGSGSGG</p>

		<p>GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRILIYLAHAMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDA KLQSKDITYDDDLNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGASAQSFIERMTNFDK NLPNEKVLPHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTTLTFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIK RQLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD F RKDFQFYKVVREINNYHHAHDAYLNAVVGTA LIKYPKLESEFVYGDYKVYDVRKMIAKSE QEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDK LIARKKDWDPKKYGGFDSPTVAYSVLVVAKEK G KSKKLKSVKELLGITIMERSSEFKNPIDFLEAK GYKEVKKDLIILPKYSLFELENGRKRMLASAGEL QKGNELALPSKYVNFLYLASHYEKLKGSPE DNEQKQLFVEQHKHYLDEIIEQISEFSKRVIL ADANLDKVL SAYNKH RD KPIREQAENIIHLFT LTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKKRKV SGSETPGTSESATPESTGRTLVTFKDVFVDF TREETWKLDDTAQQIVYRNVMLENYKNLVSLG YQLTKPDVILRLEKGEESTEPSEGSAPGTSTEP SETGGSGPPSSGGGLYRDMGAQGGRP SLIARIPVARILGDPEEESWSPSLTNLEKVV TVDVT SNFLT VTIKESNTDQGGFFKEKR</p>
<div>101040</div> <div>30</div>	:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB-TOX3	<p>MNHDQEFDPKVPYPPVPAEKRP PIRVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYV GDVRSVTQKHIQEWGPFDLVIGGSPCNDL SIVNPARKGLYEGTGRLFFEFYRLLHDAR PKEGDDRPFWL FENVVAMGVSDKRD ISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRI AKFSKVRTITTRSNSIKQGKDQHFPVFM NEKEDILWCTEMERVFGFPVHYTDVSNM SRLARQRLRG RSWSVPVIRHLFAPLKEY FACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRQPVRLSLFRNIDK VLKSLGFLESGSGGGTLKYVEDVTNVVRRD VEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLL TEDDQETTTRFLQTEAVT LQDVRGRDYQ NAMRVWSNIPGLKSKHAPLTPKEEYLLQAQ VRSRSKLDAPKVDLLVKNCLLPLREYFKYFS QNSLPLGGPSSGAPPPSGGSPAGSPTSTEE GTSESATPESGPGTSTEPSEGSAPGSPAGS PTSTEEGTSTEPS EGSAPGTSTEPSEPKKKR KVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGE TAEATRLKRTARRRYT RRKNRICYLQEIFS NEMAKVDDSFHRLVESFLVEEDKKHERHPI FGN</p>

		<p>IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAQL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK NLPNEKVLPHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKKIHKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA KILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGKELGSQILKEHPVENTQLQNEKLYLYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVVKKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKVVREINNYHHAHDAYLNAVVGTA LKKYPKLESEFVYGD YKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYS VLVAKVEKG KSKKLKSVKELLGITIMERSSEKPNIDFLEAKGYKEVKKDLI IKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEK LKG SPEDNEQQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYN KHRDKPIREQAENIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKE VL DATLIHQ SITGLYETRIDLSQLGGDPKKR KVSGETPGTSESATPEST GRTLVTFKDVFDFTREEWKLLDTAQQIVYRNVMLENYKNLVS LG YQLTKPDVILRLEKGEESTEPSEGSAPGTSTEPSETGKDPNEPQK PVS AYALFFRDTQAAIKGQNP NATFGEVSKIVASMWD SLGEEQKQVYKR KTEAAKKEYLKALAA YRASLVSK</p>
<p>101140 31</p>	<p>:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB-TOX4</p>	<p>MNHDQEFDPKVPVPPVPAEKRP IRVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQQKIMYV GDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRL FFEFYRLLHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFL ESNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHG RIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFG FPVHYTDVSNMSRLARQRLLG RSWSVPVIRHLFAPLKEYFACVSSGNS NANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRQPV RVLSLFRNIDKVLKSLGFLESGSGG GTLKYVEDVTNVRRDVEKWGPFDL VYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMD NLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKH APLTPKEEYLLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQ NSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSE GSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKR KVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDS GETAEATRLKRTARRRYT RRKNRICYLQEIFS NEMAKVDDSFHRL EESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAQL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK</p>

		<p>NLPNEKVLPHKSLLEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKKIHKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA KKGILQTVKVVDDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGSELDAKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKVINNYHHAHDAYLNAVVGTAIKKYPKLESEFVYGD YKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNVKKTVEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSEFKNPIDFLEAKGYKEVKKDLIKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFYLAHYEKLKG SPEDNEQKQLFVEQHKHYLDEIEQISEFSKRVLADANLDKVL SAYN KHRDKPIREQAENIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYETRIDLSQLGGDPKKRKVSGSETPGTSESATPEST GRTLVTFKDVFVDFTREEWKLLDTAQQIVYRNVMLENYKNLVSLG YQLTKPDVILRLEKGEEPSTEPSEGSAPGTSTEPSETGKDPNEPQKPV AYALFFRDTQAIAIKGQNPATFGEVSKIVASMWDSLGEQKQVYKR KTEAAKKEYLKALAAAYKDNQECQ</p>
<p>101249 32</p>	<p>:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB-I2BP1</p>	<p>MNHDQEFDPKVPVPPVPAEKRPVLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRHQKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLHHDARPKEGDDRP FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRQPVRLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKRVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVSTDKADLRLIYLAALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYPLKDNREKIEKILTFRIPYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGASAFIERMTNFDK NLPNEKVLPHKSLLEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKKIHKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA KKGILQTVKVVDDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE</p>

		<p> EVVKKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKREINNYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGD YKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNVIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSEFEKNPIDFLEAKGYKEVKKDLIIKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIEQISEFSKRVLADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYETRIDLSQLGGDPKKRKRKVSGETPGTSESATPEST GRTLVTFKDVFVDFTREEWKLLDTAQQIVYRNVMLENYKNLVSLG YQLTKPDVILRLEKGEEPTSEPSAPGTSTEPSETGASVQASRRQW CYLCDLPKMPWAMVWDFSEAVCRGCVNFEGADRIELLIDAARQLK RSHVLPEGRSPGPPALKHPATKDLA </p>
101349 33	:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB-MBD2	<p> MNHDQEFDPKVPVPPVPAEKRPVLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLHHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKRKYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLV DSTDKADRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRRLLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKDITYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK NLPNEKVLPKHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIK KGILQTVKVVDLVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKREINNYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGD YKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNVIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSEFEKNPIDFLEAKGYKEVKKDLIIKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG </p>

		<p>SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVLADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKVSGSETPGTSESATPEST GRTLVTFKDVFVDFTREEWKLLDTAQQIVYRNVMLENYKNLVSLG YQLTKPDVILRLEKGEEPSTEPSEGSAPGTSTEPSETGMRAHPGGGRC CPEQEEGESAAAGSGAGGDSAIEQGGQGSALAPSPVSGVRREGARG GGRGRGRWKQAGRGGVCGRGRGRGRGRGRGRGRGRGRGRPPSG GSLGGDGGGCGGGSGGGGAPRREPVPFPGSGAGPGPRGRATES GKRMDCPALPPGWKKEEVIRKSGLSAGKSDVYYFSPSGKKFRSKPQ LARYLGNTVDLSSFDFTGKMMP SKLQKNKQRLRNDPLNQNKGKP DLNTTLPIRQTASIFKQPVTKTNTNHP SNKVKSDPQRMNEQPRQLFWE KRLQGLSASDVTEQIIKTMELPKGLQGVGPGSNDETLLSAVASALHT SSAPITGQVSAAVEKNPAVWLNTSQPLCKAFIVTDEDIRKQEERVQQ VRKKLEEALMADILSRAADTEEMDIEMDSGDEA</p>
<p>101410 34</p>	<p>:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB- MeCP2</p>	<p>MNHDQEFDPKVPVPPVPAEKRPVLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVG D VRSVTQKHIQEWGPF DL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQ GK DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRL LG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMEIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEEYLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEP KKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFS NEMAKVDDSFHRL EESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLV DSTDKADLR LIYLA LAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRRENLI AQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKD TYDDDLDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFE EVVDKGASAQSFIERMTNFDK NLPNEKVLPKHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDL LKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKS DG FANRNFMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IK KGILQTVKVVDDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIE EG I KELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKS KLVSDF RKDFQFYK VREINNYHHAHDAYLNAVVG TALIKKYPKLESEFVYGD YKVYDV RKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWD PKKYGGFDSPTVAYSVLVVAKVEKG KSKKLKSVKELLGITIMERS SFEKNPIDFLEAKGYKEVKKDLI IKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVLADANLDKVL SAYN</p>

		<p>KHRDKPIREQAENIIHLFTLTNLGAPAAAFKYFDTTIDRKRYTSTKEVL DATLIHQSITEGLYETRIDLSQLGGDPKKRKVSGSETPGTSESATPEST GRTLVTFKDVFVDFTREEWKLLDTAQQIVYRNVMLENYKNLVSLG YQLTKPDVILRLEKGEEPSTEPSEGSAPGTSTEPSETGMVAGMLGLRE EKSEDQDLQGLKDKPLKFKKVKKDKKEEKEGKHEPVQPSAHHSAEP AEAGKAETSESGSAPAVPEASASPKQRRSIIRDRGPMYDDPTLPEG WTRKLKQRKSGRSAGKYDVYLINPQGKAFRSKVELIAYFEKVGDT LDPNDFDFTVTGRGSPSRREQPPKKPKSPKAPGTGRGRGRPKGSGT TRPKAATSEGVQVKRVLEKSPGKLLVKMPFQTSPGGKAEGGGATTS TQVMVIKRPGRKRKAADPQAIPKKRGRKPGSVVAAAAAEAKKKA VKESSIRSVQETVLPKIKRKTRETVSIEVKEVVKPLLSTLGEKSGKG LKTCKSPGRKSKESSPKGRSSSASSPPKKEHHHHHHHSESPKAPVPLL PPLPPPPPEPESSEDPTSPPEPQDLSSSVCKEEKMPRGGSLESDGCPKE PAKTQPAVATAATAAEKYKHRGEGERKDIVSSSMRPNREEPVDSR TPVTERVS</p>
<p>101549 35</p>	<p>:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB-Kap1</p>	<p>MNHDQEFDPKVPVPPVPAEKRKPIRVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRRLLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDA KLQLSKDITYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK NLPNEKVLPKHSLLEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKVVDLVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKVINNYHHAHDAYLNAVVGTA LIKYPKLESEFVYGD YKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKVEKG KSKKLKSVKELLGITIMERSSEFKNPIDFLEAKGYKEVKKDLIILPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG</p>

		<p>SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKVSGSETPGTSESATPEST GRTLVTFKDVFVDFTREEWKLLDTAQQIVYRNVMLENYKNLVSLG YQLTKPDVILRLEKGEEPSTEPSEGSAPGTSTEPSETGMAASAAAASA AAASAASGSPGPGEGSAGGEKRSTAPSAAASASASAAASSPAGGGA EAEELLEHCGVCRERLRPEREPRLLPCLHSACSACLGPAAAPAAANSS GDGGAAGDGTVVDCPVCKQQCFSKDIVENYFMRDSGSKAATDAQD ANQCCTSCEDNAPATSYCVECSEPLCETCVEAHQRVKYTKDHTVRS TGPAKSRDGERTVYCNVHKHEPLVLFCESCDTLTCRDCQLNAHKDH QYQFLEDAVRNQRKLLASLVKRLGDKHATLQKSTKEVRSSIRQVSD VQKRQVQVDVKMAILQIMKELNKRGRVLVNDQKVTEGQQRERLERQ HWTMTKIQKHQEHILRFASWALESDNNTALLSKKLIYFQLHRALK MIVDPVEPHGEMKFQWDLNAWTKSAEAFGKIVAERP GTNSTGPAP MAPPRAPGPLSKQGS GSSQPM EVQEGYGFSGDDPYSSAEPHVSGV KRSRSGEGEVSGLMRKVPRVSLERLDLDTADSQPPVFKVFPGSTTE DYNLIVIERGAAAAATGQPGTAPAGTPGAPPLAGMAIVKEEETAAI GAPPTATEGPETKPVLMALAEGPGAEGPRLASPSGSTSSGLEVVAPE GTSAPGGGPGTLDDSATICRVCQKPGDLVMCNQCEFCFHL DCHLPA LQDVPGE EWSCSLCHVLPDLKEEDGSLSLDGADSTGVVAKLSPANQ RKCERVLLALFCH EPCRPLHQLATDSTFSLDQPGGTLDLTLIRARLQE KLSPPYSSPQEFAQDVGRMFKQFNKLTEDKADVQSIIGLQRFFETRM NEAFGDTKFS AVLVEPPPMSLPGAGLSSQELSGGPGDGP</p>
<p>101649 36</p>	<p>:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB-HP1a</p>	<p>MNHDQEFDPKVPVPAEKRPVRLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQ GK DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPM EIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFWFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEEYLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEP KKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFS NEMAKVDDSFHRL EESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLA LAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRRL ENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYVGP LARGNSRFAWMTRKSEETITPWNFE EVVDKGASAQSFIERMTNFDK NLPNEKVLPKHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDL LKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNF MQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IK KGILQTVKVVD ELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEEGIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPVSE</p>

		<p> EVVKKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKVVREINNYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGD YKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNVIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFYLYASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIEQISEFSKRVLADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSIITGLYETRIDLSQLGGDPKKRKRKVSGETPGTSESATPEST GRTLVTFKDVFVDFTREEWKLLDTAQQIVYRNVMLENYKNLVSLG YQLTKPDVILRLEKGEEPTSEPTSEGSAPGTSTEPSETGMGKKTARTAD SSSEDEEEYVVEKVLDRRVVKGQVEYLLKWKGFEHNTWEPEKN LDCPELISEFMKKYKKMKKEGENNKPRESKSNRKSNSFNSADDIKS KKKREQSNDIARGFERGLEPEKIIGATDSCGDLMLMKWKGTDEAD LVLAKEANVKCPQIVIAFYEERLTWHAYPEDAENKEKETAKS </p>
101740 37	:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB-HP1b	<p> MNHDQEFDPKVPVPPVPAEKRPVRLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRHQKIMYVGDVRSVTQKHIEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLHHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLLQAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKRKYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLAHAMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRRLLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKDITYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGAQAQSFIERMTNFDK NLPNEKVLPHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA KGILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEEGIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVVKKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKVVREINNYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGD YKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVLSPQVNVIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG </p>

		<p>KSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKRKVS GSETPGTSESATPEST GRTLVTFKDVFVDFTREEWKLLDTAQQIVYRNVMLENYKNLVSLG YQLTKPDVILRLEKGEEPTSESGSAPGTSTEPSETGMGKKQNKKK VEEVLEEEEEEEYVVEKVLDRRVVKGKVEYLLKWKGFSDENTWEP EENLDCPDLIAEFLQSQKTAHETDKSEGGRKADSDSEDKGEESKPK KKKEESEKPRGFARGLEPERIIGATDSSGELMFLMKWKNSDEADLVP AKEANVKCPQVVISFYERLTWHSYPSEDDDKDDKN</p>
<p>101849 38</p>	<p>:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB-EED</p>	<p>MNHDQEFDPKVPVPAEKRKPIRVLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVG DVS VTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLLQAQVRSRK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKRKYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFS NEMAKVDDSFHRL EESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKD TYDDDLDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGASAQSFIERMTNFDK NLPNEKVLPHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTTLTFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IK KGILQTVKVVDLVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIE EG I KELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKS KLVSDF RKDFQFYK VREINNYHHAHDAYLNAVVG TALIKKYPKLESEFVYGD YKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKVEKG KSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKRKVS GSETPGTSESATPEST GRTLVTFKDVFVDFTREEWKLLDTAQQIVYRNVMLENYKNLVSLG</p>

		YQLTKPDVILRLEKGEEPSTEPSEGSAPGTSTEPSETGMSEREVSTAPA GTDMPAAKKQKLSSDENSNDLSDGENDDAVSIESGTNTERPDTPTN TPNAPGRKSWGKGKWKSKCKYSFKCVNSLKEDHNQPLFGVQFNW HSKEGDPLVFATVGSNRVTLYECHSQGEIRLLQSYVDADADENFYT CAWTYDSNTSHPLLAVAGSRGIIRINPITMQCIKHVYVGHGNAINELK FHPRDPNLLLSVSKDHALRLWNIQTDTLVAIFGGVEGHRDEVLSADY DLLGEKIMSCGMDHSLKLWRINSKRMMNAIKESYDYNPNKTNRPFI SQKIHFPDFSTRDIHRNYVDCVRWLGDLLSKSCENAIVCWKPGKME DDIDKIKPSESNTILGRFDYSQCDIWYMRFSMDFWQKMLALGNQV GKLYVWDLEVEDPHKAKCTTLTHHKCGAAIRQTSFSRDSSILIAVCD DASIWRWDRLR
101940 39	:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB- RBBP4	MNHDQEFDPKVPVPAEKRKPIRVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYLLQAQVRSRK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDA KLQSKDITYDDDLNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPKEYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASQAQSFIERMTNFDK NLPNEKVLPHKSLLEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTTLTFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKGILQTVKVVDLVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSDF RKDFQFYKVREINNYHHAHDAYLNAVVGTA LIKYPKLESEFVYGDYKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEVGK KSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEVKDLIILPKYSLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYNKHARDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKVSGSETPGTSESATPEST GRTLVTFKDVVFVDFTREEWKLLDTAAQQIVYRNVMLENYKNLVSLG

		YQLTKPDVILRLEKGEEPSTEPSEGSAPGTSTEPSETGMADKEAAFD AVEERVINEEYKIWKKNTPFLYDLVMTHALEWPSLTAQWLPDVTRP EGKDFSIHRLVLGTHTSDEQNLVIASVQLPNDDAQFDASHYDSEK EFGGFGSVSGKIEIEIKINHEGEVNRARYMPQNPCIIATKTPSSDVLV DYTKHPSKPDPSGECNPDRLRLRGHQKEGYGLSWNPNLSGHLLSASD DHTICLWDISAVPKEGKVVDKTIFTGHTAVVEDVSWHLLHESLFGS VADDQKLMIWDRSNNTSKPSHSVDAHTAEVNCLSFNPYSEFILATG SADKTVALWDLRNLKLLHSFESHKDEIFQVQWSPHNETILASSGTD RRLNVWDLISKIGEEQSPEDAEDGPPELLFIHGGHTAKISDFSWNPNP WVICSVSEDNIMQVWQMAENIYNDEDPEGSVDPEGQGS
102019 40	:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB- RCOR1	MNHDQEFDPKVPVPAEKRKPIRVLSLFDGIATGLLVKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQK DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRPVRVLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYQLAQVRSRSK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKVYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRILIYLAHAMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEVVDKGASAQSFIERMTNFDK NLPNEKVLPHSLLEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA KILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGSGILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSE EVVKKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKVRINNYHHAHDAYLNAVVGTA LIKYPKLESEFVYGD YKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKG KSKKLKSVKELLGITIMERSSEFKNPIDFLEAKGYKEVKKDLIILPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYN KHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKVSGSETPGTSESATPEST GRTLVTFKDVFVDFTREEWKLLDTAQQIVYRNVMLENYKNLVSLG YQLTKPDVILRLEKGEEPSTEPSEGSAPGTSTEPSETGMPAMVEKGPE

		VSGKRRGRNNAASASAAAASAAASAACASPAATAASGAAASSAS AAAASAAAAPNNGQNKSLAAAAPNGNSSNSWEEGSSGSSSDEEHG GGGMRVGPQYQAVVPDFDPAKLARRSQERDNLGMLVWSPNQNLSE AKLDEYIAIAKEKHGYNMEQALGMLFWHKHNIKSLADLPNFTPFP DEWTVEDKVLFEQAFSFHKGKTFHRIQQMLPDKSIASLVKFYYSWKK TRTKTSVMDRHARKQKRERESEDELEEANGNNPIDIEVDQNKESK KEVPPTETVPQVKKEKHSTQAKNRAKRKPPKGMFLSQEDVEAVSAN ATAATTVLRQLDMELVSVKRQIQNIKQTNSALKEKLDGGIEPYRLPE VIQKCNAWRTTEEQLLAVQAIRKYGRDFQAISDVIGNKSVVQVKNNF VNYRRRFNIDEVLQEWAEHKGKEETNGPSNQKPVKSPDNSIKMPEEE DEAPVLDVRYASAS
102140 41	:DNMT3A/ L- dSpCas9- XTEN16- KOX1KR AB-EZH2	MNHDQEFDPKVPVPAEKRKPIRVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQGKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLHDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HMGPMIYKTVSAWKRQPVRLSLFRNIDKVLKSLGFLESGSGSGG GTLKYVEDVTNVRRDVEKWGPFDLVYGSTQPLGSSCDRCPGWYM FQFHRILQYALPRQESQRPFFWIFMDNLLLTEDDQETTTRFLQTEAVT LQDVRGRDYQNAMRVWSNIPGLKSKHAPLTPKEEYQLQAQVRSRK LDAPKVDLLVKNCLLPLREYFKYFSQNSLPLGGPSSGAPPPSGGSPAG SPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPS EGSAPGTSTEPSEPKKRKYMDKKYSIGLAIGTNSVGWAVITDEYK VPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYT RRKNRICYLQEIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGN IVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHF LIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARL SKSRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKL QLSKDITYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTE ITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNG YAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTF DNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGP LARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDK NLPNEKVLPHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKK AIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAH LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDG FANRNFMLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA KILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRER MKRIEELGSGILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQ ELDINRLSDYDVAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNPSE EVVKKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKR QLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSD RKDFQFYKVVREINNYHHAHDAYLNAVVGTA LIKYPKLESEFVYGDYKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRK RPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFS KESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKVEKG KSKKLKSVKELLGITIMERSSEFKNPIDFLEAKGYKEVKDLIILPKY SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKG SPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILADANLDKVL SAYNKH RDKPIREQAENIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKRKYVSGSETPGTSESATPEST GRTLVT FKDVFDFTREEWKLLDTAQQIVYRNVMLENYKNLVSLG

		YQLTKPDVILRLEKGEEPSTEPSEGSAPGTSTEPSETGMGQTGKKSEK GPVCWRKRVKSEYMRLRQLKRFRRRADEVKSMFSSNRQKILERTEIL NQEWKQRRIQPVHILTSVSSLRGTTRECSVTSDLDFPTQVIPLKTLNAV ASVPIMYSWSPLQQNFMVEDETVLHNIPYMGDEVLDQDGTFFIEELIK NYDGKVHGDRECGFINDEIFVELVNALGQYNDDDDDDDDGDDPEERE EKQKDLEDHRDDKESRPPRKFPSPDKIFEAISSMFPDKGTAEELKEKY KELTEQQLPGALPPECTPNIDGPNASVQREQSLHSFHTLFCRRCFKY DCFLHPFHATPNTYKRKNTETALDNKPCGPQCYQHLEGAKEFAAAL TAERIKTPPKRPGGRRRGRLPNSSSRPSTPTINVLESKDTSDREAGT ETGGENNDKEEEEKKDETSSSSEANSRCQTPIKMKPNIEPPENVEWS GAEASMFRVLIGTYYDNFCAIARLIGTKTCRQVYEFVKESSIIAPAP AEDVDTPPRKKKRKHRLWAAHCRKIQLKKGSSNHVYNYQPCDHP RQPCDSSCPCVIAQNFCEKFCQCSSECQNRFPGCRCKAQCNTKQCPC YLAVRECDPDLCLTCGAADHWDSKNVSCKNCSIQRGSKKHLLLAPS DVAGWGIFIKDPVQKNEFISEYCGEISQDEADRRGKVYDKYMCNFL FNLNDFVVDATRKGNKIRFANHSVNPNCYAKVMMVNGDHRIGIF AKRAIQTGEELFFDYRYSQADALKYVGIEREMEIP
102240 42	Cas-ZIM3	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSAAILSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVDKGASAQSFIERMTNFDKNLPNEKVLPHK SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVD LVKVMGRHHPENIVIEAMARENQTTQKGQKNSRERMKRIEELIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGSELDAKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEGEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIIKLPKYSLEFENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLHQSITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMNNSQGRVTFEDVTNFTQGEWQRLNPEQRNLYRDVMLENYSN LVSVGQGETTKPDVILRLEQKGEPWLEEEVVLGSGRAEKNGDIGGQI WKPKDVKESL
102340 43	Cas-ZNF554	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS

		<p>DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKDQYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDGD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVD LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIIKLPKYSLELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLHQSITGLYE TRIDLSQLGGDPKKRKRVGGPSSGAPPPSGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMFSQEERMAAGYLPRWSQELVTFEDVSMDFSQEEWELLEPAQK NLYREVMLENYRNVVSLEALKNQCTDVGIKEGPLSPAQTSQVTSLS WTGYLLFQPVASSHLEQREALWIEKGTQASCSDWMTVLRNQDST YKKVALQE</p>
102410 44	Cas- ZNF264	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLV DSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKDQYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDGD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVD LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI</p>

		<p>ARKKDWDPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIILPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKH RDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMAAAVLTDRAQVSVTFDDVAVTFTKEEWGQLDLAQR TLYQEV MLENCGLLVSLGCPV PKAELICHLEHGQEPWTRKEDLSQDTC PGDK GPKKTTEPTTCEPALSE</p>
102510 45	Cas- ZNF354A	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRL ENLIA QLPGEKKNGLFGNLIALSLGLTPNFKS NFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFE EVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKD KD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKS DGFANRNF MQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKVVDE LVKVMGRHKPENIVIE MARENQTTQKGQKNSRERMKRIEEG IKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKS KLVSDFRKDFQFYK VREIN NYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIILPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKH RDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMAAGQREAR PQVSLTFEDVAVL FTRDEWRKLAPSQRNLYRDVM LENYRNLVSLGLPFTKPKVISLLQQGEDPWEVEKD GSGVSSLGSKSS HKTTKSTQTQDSSFQ</p>
102610 46	Cas- ZNF324	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRL ENLIA QLPGEKKNGLFGNLIALSLGLTPNFKS NFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFE EVVDKGASAQSFIERMTNFDKNLPNEKVLPKH</p>

		<p> SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVDVRKMIAK SEQEI GKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMAFEDVAVYFSQEEWGLLDTAQRALYRRVMLDNFALVASLGLS TSRPRVVIQLERGEEPWVPSGTDTTLSRTTYRRRNPGSWSLTEDRDV SG </p>
<div> <div>102749</div> <div>47</div> </div>	Cas-ZFP28	<p> MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDHRSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLV DSTDKADLR LIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRL ENLIA QLPGEKKNGLFGNLI ALSGLTPNFKSNFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSAMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFE EVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVDVRKMIAK SEQEI GKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE </p>

		TGNKKLEAVGTGIEPKAMSQGLVTFGDVAVDFSQEEWEWLNPIQRN LYRKVMLENYRNLASLGLCVSKPDVISSLEQGKEPW
<u>102840</u> 48	Cas-ZN627	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQVLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDL LVKVMGRHKPENIVIEAMARENQTTQKGQKNSRERMKRIEELIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIIKLPKYSLELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLIHQSTGLYE TRIDLSQLGGDPKKKRKVGPGSSGAPPPSGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGDSVAFEDVAVNFTLEEWALLDPSQKNLYRDVMMRETFRNLASVG KQWEDQNIEDPFKIPRRNISHIPERLCESKEGGQGE
<u>102940</u> 49	Cas-ZN793	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQVLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDL LVKVMGRHKPENIVIEAMARENQTTQKGQKNSRERMKRIEELIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA

		<p>QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSEFKNPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIQISEFSKRVLADANLDKVL SAYNKH RDKPIREQAEN IIHLFTLTNLGAPAAF KYFDTTIDRKRYTSTKEVLDATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGIEYQIPVSFKDVVVGFTQEEWHRLSPAQRALYRDV MLETYSNLVS VGYEGTKPDVILRLEQEEAPWIGE AACPGCHCWED</p>
103049 50	Cas-ZN736	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFE EVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNF MQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKV VDE LVKVMGRHHPENIVIE MARENQTTQKGQKNSRERMKRIE EGikelGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSEFKNPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIQISEFSKRVLADANLDKVL SAYNKH RDKPIREQAEN IIHLFTLTNLGAPAAF KYFDTTIDRKRYTSTKEVLDATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGGVLTFRDVAVEFSPEEWECLDSAQQRLYRDV MLENYGNLVSLGL AIFKPDLMTCLEQRKEPWKVKRQEAVAKHPAGSFHF</p>
103149 51	Cas-ZN577	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL</p>

		<p>GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHHPENIVIEAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLEFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHARDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGNATIVMSVRREQSSSGEGLSFEDVAVGFTREEWQFLDQSQKVL YKEVMLENYINLVSIGYRGTKPDSLFLKEQGEPPG</p>
<p>103249 52</p>	<p>Cas- SUMO1</p>	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHHPENIVIEAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLEFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHARDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE</p>

		TGEGEYIKLKVIGQDSSEIHFKVKMTTHLKKLKESYQCRQGVPMNSL RFLFEGQRIADNHTPKELGMEEEDVIEVYQEQTGG
<u>103340</u> 53	Cas-SUMO3	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEAMARENQTTQKGQKNSRERMKRIEELIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIIKLPKYSLELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLIHQSTGLYE TRIDLSQLGGDPKKRKVGGPSSGAPPPSGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGENDHINLKVAGQDGSVVQFKIKRHTPLSKLMKAYCERQGLSMRQ IRFRFDGQPINETDTPAQLEMEDEDTIDVFQQQTGG
<u>103440</u> 54	Cas-MPP8	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEAMARENQTTQKGQKNSRERMKRIEELIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA

		<p>QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIQISEFSKRVLADANLDKVL SAYNKHHRDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGAEAFGDSEEDGEDVFEVEKILDMKTEGGKVL YKVRWKGYTSDD DTWEPEIHLEDCKEVLLFRKKIAENKAKAVRKDIQR</p>
103549 55	Cas-RYBP	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALLSLGLTPNFKS NFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDL LVKVMGRHHPENIVIE MARENQTTQKGQKNSRERMKRIE EGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGSEL DKAAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIQISEFSKRVLADANLDKVL SAYNKHHRDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGPSEANSIQSANATTKTSETNHTSRPRLKNVDRSTAQQLAVTVGNV TVIITDFKEKTRSSSTSSSTVTSSAGSEQQNQSSS</p>
103649 56	Cas-YAF2	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALLSLGLTPNFKS NFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL</p>

		<p>GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEEDIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSEKKNPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGKDKVEKEKSEKETTSKKNSHKKTRPRLKNVDRSSAQHLEVTVGDL TVIITDFKEKTKSPPASSAASADQHSQSGSSSDNT</p>
<p>103749 57</p>	<p>Cas- SUMO5</p>	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSAMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEEDIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSEKKNPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE</p>

		TGKDEDIKLRVIGQDSSEIHFKVKMTTPLKKLKSSYQCRQGVVNSL RFLFEGQRIADNHTPEELGMEEDVIEVYQEIQGG
103840 58	Cas-CBX4	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDL LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSLLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIIKLPKYSLEFENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLHQSITGLYE TRIDLSQLGGDPKKRKVGPGSSGAPPPSGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGRSEAGEPPSSLQVKPETPASAAVAVAAAAAPTTTAEKPPAEAQDE PAESLSEFKPFFGNIIITDVTANCLTVTFKEYYTV
103940 59	Cas-PCGF2	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDL LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA

		<p>QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKGFDSPVAYSVLVAKVEKGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIIKLPKYSLEFENGKRKRL ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLHQSITGLYE TRIDLSQLGGDPKKKRVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGHRTTRIKITELNPHLMCALCGGYFIDATTIVECLHSFCKTCIVRYLE TNKYCPMCDVQVHKTRPLLSIRSDKTLQDIVYK</p>
104010 60	Cas-CDY2	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEKAVDDSFHRLSESLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLEPKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVDKGASQSFIERMTNFDKNLPNEKVLPHK SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDL LVKVMGRHKPENIVIEARENQTTQKGQKNSRERMKRIEIGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKGFDSPVAYSVLVAKVEKGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIIKLPKYSLEFENGKRKRL ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLHQSITGLYE TRIDLSQLGGDPKKKRVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGASQEFVEAIVDKRQDKNGNTQYLVRWKGYDKQDDTWEPEQHL MNCEKCVHDFNRRQTEKQKKLTWTTTSRIFSNNARR</p>
104110 61	Cas-CDYL2	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEKAVDDSFHRLSESLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLEPKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL</p>

		<p>GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTIAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHHPENIVIEAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLEFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGASGDLYEVERIVDKRKNKKGKWEYLIRWKGYGSTEDTWEPEHH LLHCEEFIDEFNGLHMSKDKRIKSGKQSSTSKLLRDS</p>
<p>104249 62</p>	<p>Cas- HERC2</p>	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPHIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSAMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTIAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHHPENIVIEAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLEFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE</p>

		TGTLIRKADLENHKNKDGGFWTVIDGKVYDIKDFQTQSLTGNSILAQF AGEDPVVALEAALQFEDTRESMHAFQVGGQYLEPDQ
104310 63	Cas-ID2	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDQYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVDKGASQSFIERMTNFDKNLPNEKVLPHK SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSLLVSDFRKDFQFYKVIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNVKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIILPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLHQSITGLYE TRIDLSQLGGDPKKRKVGPGSSGAPPPSGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGSDHSLGISRSKTPVDDPMSLLYNMNDCYSKLKLVPISIPQNKKVS KMEILQHVIDYILDQLALDSHPTIVSLHHQRPQG
104410 64	Cas-TOX	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDQYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVDKGASQSFIERMTNFDKNLPNEKVLPHK SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA

		<p>QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKH RDKPIREQAEN IIHLFTLTNLGAPAAF KYFDTTIDRKRYTSTKEVLDATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGKDPNEPQKPVSAYALFFRDTQAAIKGQNP NATFGEVSKIVASMW DGLGEEQKQVYKKKTEAAKKEYLKQLAAYRASLVSK</p>
104510 65	Cas-SCMH1	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFE EVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNF MQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKV VDE LVKVMGRHHPENIVIE MARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKH RDKPIREQAEN IIHLFTLTNLGAPAAF KYFDTTIDRKRYTSTKEVLDATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGDASRLSGRDPSSWTVEDVMQFVREADPQLGPHADLFRKHEIDGK ALLLLRSDMMM KYMGLKLGPALKLSYHIDRLKQGGKF</p>
104610 66	Cas-CBX7	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL</p>

		<p>GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHHPENIVIEMARENQTTQKGQKNSRERMKRIEEDIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGITALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLEFENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGELSAIGEQVFAVESIRKKRVRKGKVEYLVKWKGWPPKYSTWEPE EHILDPRLV MAYEEKEERDRASGYRKRGP KPKRLLL</p>
<div> <div>104749</div> <div>67</div> </div>	Cas-ID1	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSAMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHHPENIVIEMARENQTTQKGQKNSRERMKRIEEDIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGITALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLEFENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE</p>

		TGGGAGARLPALLDEQQVNVLLYDMNGCYSRLKELVPTLPQNRKV SKVEILQHVIDYIRDLQLELNSESEVGTGGRGLPVR
104810 68	Cas-CREM	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQVLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEAMARENQTTQKGQKNSRERMKRIEEDIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVAKVEKGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIIKLPKYSLELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLIHQSTGLYE TRIDLSQLGGDPKKKRKVGPGSSGAPPPSGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGVVMAASPGSLHSPQQLAEEATRKRELRLMKNREAAKECRRRKK EYVKCLESRAVAVLEVQNKKLIEELETLKDICSPTDY
104910 69	Cas-SCX	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQVLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEAMARENQTTQKGQKNSRERMKRIEEDIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA

		<p>QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAlikkypklesefvygdykvydvrkmiak SEQeIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAkVEKGKSKKLKSVKELLG ITIMERSsFEKNPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIeQISEFSKRVLADANLDKVLsAYNKHRDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDATLIHQsITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGGGGPGGRPGREPRQRHTANARERDRTNSVNTAFTALRTLIPTEPA DRKLSKIETLRLASSYISHLGNVLLAGEACGDGQP</p>
105049 70	Cas- ASCL1	<p>MGTPKKKRKVMdKKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDsFFHRLEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFiQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDAEDAKLQLSKDtyDDD LDNLLAQIGDQYADLFLAAKNLSdAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYpFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEeVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTyHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAikkGILQTVKVvDE LVKVMGRHHPENIVIEMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDvd AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEeVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAlikkypklesefvygdykvydvrkmiak SEQeIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAkVEKGKSKKLKSVKELLG ITIMERSsFEKNPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIeQISEFSKRVLADANLDKVLsAYNKHRDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDATLIHQsITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGSGFGYSLPQQQPAAVARRNERERNRVKLVNLGFATLREHVPNGA ANKKMSKVETLRSaVEYIRALQQLLDEHDAVSAAfQ</p>
105149 71	Cas- SCML2	<p>MGTPKKKRKVMdKKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDsFFHRLEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFiQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDAEDAKLQLSKDtyDDD LDNLLAQIGDQYADLFLAAKNLSdAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL</p>

		<p>GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTIAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHHPENIVIEMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSEKKNPIDFLEAKGYKEVKKDLIIKLPKYSLEFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGKQGFSKDPSTWSVDEVIQFMKHTDPQISGPLADLFRQHEIDGKAL FLKSDVMMKYMGLKLGPALKLCYYIEKLKEGKYS</p>
105249 72	Cas- TWST1	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTIAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHHPENIVIEMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSEKKNPIDFLEAKGYKEVKKDLIIKLPKYSLEFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE</p>

		TGSGGGSPQSYEELQTQRVMANVRERQRTQSLNEAFAALRKIIPTLP SDKLSKIQTCLKLAARYIDFLYQVLQSDDELDSKMAS
10 5373	Cas- CREB1	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQVLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVDKGASAQSFIERMTNFDKNLPNEKVLPHK SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEAMARENQTTQKGQKNSRERMKRIEEDIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSLLVSDFRKDFQFYKVIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNVKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKGFFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSEKKNPIDFLEAKGYKEVKKDLIIKLPKYSLELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLIHQSTGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGSTEPSE TGIAPGVVMASSPALPTQPAEEAARKREVRLMKNREAARECRRKKK EYVKLENRVAVLENQNKTLIEELKALKDLYCHKSD
10 5474	Cas- TERF1	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQVLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVDKGASAQSFIERMTNFDKNLPNEKVLPHK SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEAMARENQTTQKGQKNSRERMKRIEEDIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA

		<p>QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKH RDKPIREQAEN IIHLFTLTNLGAPAAF KYFDTTIDRKRYTSTKEVLDATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGS RIPVSKSQPVTPEKHRARKRQAWLWEEDKNL RSGVRKYGEGN WSKILLHYKFNNRTSVMLKDRWRTMKKLKLISSDSED</p>
105575	Cas-ID3	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKS NFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFE EVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNF MQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKV VDE LVKVMGRHHPENIVIE MARENQTTQKGQKNSRERMKRIE EGikelGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKH RDKPIREQAEN IIHLFTLTNLGAPAAF KYFDTTIDRKRYTSTKEVLDATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGSLAIARGRGKGPAAEEPLSLLDDMNH CY SRLREL VPGVPRGTQLS QVEILQRVIDYILD LQVVLAE PAPGPPDGPHLPIQ</p>
105676	Cas-CBX8	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKS NFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL</p>

		<p>GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDCKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTIAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTAKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGGSGPPSSGGGLYRDMGAQGGRP SLIARIPVARILGDPEEESWSPSL TNLEKVVVTDVTSNFLTVTIKESNTDQGFFKEKR</p>
105777	Cas-CBX4	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSAMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDCKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTIAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTAKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE</p>

		TGELPAVGEHVFAVESIEKKRIRKGRVEYLVKWRGWSPKYNTWEPE ENILDPRLLI AFQNRERQEQLMGYRKRGPKPKPLVV
105878	Cas-GSX1	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEAMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKS KLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVG TALIKKYPKLESEFVYG DYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGS PEDNEQKQLFVE QHKHYLDEIIEQISEFSKR VILADANLDKVL SAYNKH RDKPIREQAEN IIHLFTLTNLGAPAAF KYFDTTIDRKRYTSTKEVLDATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGVDSSSNQLPSSKRMRTAFTSTQLLELEREFASNMYLSRLRRIE IAT YLNLSEKQVKIWFQNR RVKHKKEGKGSNHRGGGG
105979	Cas-NKX22	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEAMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA

		<p>QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKKGSKKLKSVKELLG ITIMERSSEFKNPIDFLEAKGYKEVKKDLIIKLPKYSLFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIQISEFSKRVLADANLDKVL SAYNKHARDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGTPGGGGDAGKKRKRRLFSKAQTYELERRFRQQRYSAPEREHL ASLIRLTPTQVKIWFQNHRYKMKRARA EKGMEVTPL</p>
106089	Cas-ATF1	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDHRSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLNLI QLPGEKKNGLFGNLIASLGLTPNFKS NFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSAMI KRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDKD FLDNEENEDILEDIVLTLT LFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVD LVKVMGRHHPENIVIE MARENQTTQKGQKNSRERMKRIE EGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKKGSKKLKSVKELLG ITIMERSSEFKNPIDFLEAKGYKEVKKDLIIKLPKYSLFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIQISEFSKRVLADANLDKVL SAYNKHARDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGQTVVMTSPVTLTSQTTKTDDPQLKREIRLMKNREAARECRRKKK EYVKLENRVAVLENQNKTLIEELKTLKDLYSNKS</p>
106181	Cas-TWST2	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDHRSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLNLI QLPGEKKNGLFGNLIASLGLTPNFKS NFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSAMI KRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL</p>

		<p>GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTIAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGGKSKKLKSVKELLG ITIMERSSEKKNPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGKGSPSAQSFEELQSQRILANVRERQRTQSLNEAFAALRKIIPTLPSD KLSKIQTLKLAARYIDFLYQVLQSDMDNKMST</p>
106282	Cas-TOX3	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTIAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGGKSKKLKSVKELLG ITIMERSSEKKNPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE</p>

		TGKDPNEPQKPVSAYALFFRDTQAAIKGQNP NATFGEVSKIVASMW DSLGEEQKQVYKRKTEAAKKEYLKALAA YRASLVSK
106383	Cas-TOX4	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQVLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDL LVKVMGRHKPENIVIE MARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKS KLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGS PEDNEQKQLFVE QHKHYLDEIIEQISEFSKR VILADANLDKVL SAYNKH RDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGKDPNEPQKPVSAYALFFRDTQAAIKGQNP NATFGEVSKIVASMW DSLGEEQKQVYKRKTEAAKKEYLKALAA YKDNQECQ
106484	Cas-ZMYM3	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQVLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDL LVKVMGRHKPENIVIE MARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA

		<p>QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLI IKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKH RDKPIREQAEN IIHLFTLTNLGAPAAF KYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGLDGSTWDFCSEDCKSKYLLWYCKAARCHACKRQGK LLETIHWR GQIRHFCNQCLLRFYSQQNQPNLDTQSGPESLLNSQ</p>
106585	Cas-I2BP1	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFE EVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNF MQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKV VDE LVKVMGRHHPENIVIE MARENQTTQKGQKNSRERMKRIE EGikelGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLI IKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKH RDKPIREQAEN IIHLFTLTNLGAPAAF KYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGASVQASRRQWCYLC DLPKMPWAMVWDFSEAVCRGCVNFEGAD RIELLID AARQLKRSHVLPEGRSPGPPALKHPATKDLA</p>
106686	Cas-RHXF1	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL</p>

		<p>GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDGD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDGD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVDVVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGGKSKKLKSVKELLG ITIMERSSEKKNPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMEGPQPENMQPRTRRTKFTLLQVEELESVFRHTQYDPVPTRELA ENLGVTEDEKVRVWFKNKRARCRRHQRELMLANELR</p>
106787	Cas-SSX2	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSAMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDGD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDGD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVDVVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGGKSKKLKSVKELLG ITIMERSSEKKNPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE</p>

		TGPKIMPKKPAEEGNDSEEVPEASGPQNDGKELCPPGKPTTSEKIH SGPKRGEHAWTHRLRERKQLVIYEEISDPEEDDE
106888	Cas-I2BPL	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQVLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIILPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLHQSITGLYE TRIDLSQLGGDPKKKRKVGPGSSGAPPPSGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGSAQVSSSRQSCYLCDLPRMPWAMIWDFSEPVCRCVCVNYEGA DRIEFVIETARQLKRAHGCFQDGRSPGPPPPVGVKTV
106989	Cas-CBX1	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQVLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA

		<p>QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIQISEFSKRVLADANLDKVL SAYNKHARDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGNKKKVVEEVLEEEEEYYVVEKVLDRRVVKGKVEYLLKWKGFSD DNTWEPEENLDCPDLIAEFLQSQKTAHETDKSEGGR</p>
107099	Cas-TRI68	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLNLIA QLPGEKKNGLFGNLIASLGLTPNFKSNDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVD LVKVMGRHHPENIVIMARENQTTQKGQKNSRERMKRIEIGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGSEL DKAAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIQISEFSKRVLADANLDKVL SAYNKHARDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGLANVVEKVRLLRLHPGMGLKGDLCERHGEKLMFCKEDVLIMC EACSQSPEHEAHSVPMEDVAWEYKWELHEALEHLKK</p>
107191	Cas-HXA13	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLNLIA QLPGEKKNGLFGNLIASLGLTPNFKSNDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL</p>

		<p>GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDGD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHHPENIVIEAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDGD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVRIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVDVVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSEKKNPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSIITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGVVSHPSDASSYRRGRKKRVPYTKVQLKELEREYATNKFITKDKR RRISATTNL SERQVTIWFQNRVRVKEKKVINKLKTTS</p>
107292	Cas-PHC3	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPFGNIVDEVAYHEK YPTIYHLRKKLV DSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSAMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDGD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHHPENIVIEAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDGD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVRIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVDVVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSEKKNPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSIITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE</p>

		TGENSDLLPVAQTEPSIWTVDDVWAFIHSLPGCQDIADEFRAQEIDG QALLLLKEDHLMMSAMNIKLGPALKICARINSLKES
107393	Cas-TCF24	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQVLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIILPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLIHQSTGLYE TRIDLSQLGGDPKKKRKVGPGSSGAPPPSGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGAGPGGSGSRSGSRPAAANAARERSRVQTLRHAFLELQRTLPSVPP DTKLSKLDVLLLATTYIAHLTRSLQDDAEAPADAG
107494	Cas-HXB13	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQVLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA

		<p>QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKH RDKPIREQAEN IIHLFTLTNLGAPAAF KYFDTTIDRKRYTSTKEVLDATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGQHPPDACAFRRGRKKRIPYSKGQLRELEREYAANKFITKDKRRKI SAATSLSERQITIWFQNR RVKEKKVLAKVKNSATP</p>
107595	Cas-HEY1	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKS NFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFE EVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNF MQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKV VDE LVKVMGRHHPENIVIE MARENQTTQKGQKNSRERMKRIE EGikelGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKH RDKPIREQAEN IIHLFTLTNLGAPAAF KYFDTTIDRKRYTSTKEVLDATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGSMSP TSSQILARKRRRG IIEKRRRDRINNSLSELRRLVPSAFEKQG SAKLEKAEILQMTVDHLKMLHTAGGKGYFDAHA</p>
107696	Cas-PHC2	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKS NFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL</p>

		<p>GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTIAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLEFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHARDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGLVGMGHHFLPSEPTKWNVEDVYEFIRSLPGCQEIAEEFRAQEIDG QALLLLKEDHLM SAMNIKLGPALKIYARISMLKDS</p>
107797	Cas- FIGLA	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSAMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTIAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLEFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHARDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSI TGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE</p>

		TGGYSSTENLQLVLERRRVANAKERERIKNLNRGFARLKALVPFLPQ SRKPSKVDILKGATEYIQVLSDLLEGAKDSKKQDP
107898	Cas- SetDB1	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALLSLGLTPNFKSNFDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEFYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDL LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKQQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVAKVEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLEFENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLIHQSTGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGSTEPSE TGMSSLPGCIGLDAATATVESEEIAELQQAVVEELGISMEELRHFIDE ELEKMDCVQQRKKQLAELETWVIQKESEVAHVVDQLFDDASRAVTN CESLVKDFYSKLGLQYRDSSSEDESSRPTIIEIPDEDDVLSIDSGDA GSRTPKDQKLREAMAALRKSAAQDVQKFMDAVNKKSSSQDLHKGTL SQMSGELSKDGLIVSMRILGKKRTKTWHKGTLIAIQTVGPGKKYK VKFDNKGKSLLSGNHIAIDYHPPADKLYVGSRVVAKYKDGNGQVWL YAGIVAETPNVKNKLRFLIFFDDGYASYVTQSELYPICRPLKKTWEDI EDISCRDFIEEYVTAYPNRPMVLLKSGQLIKTEWEGTWWKSRVEEV DGSLVRILFLDDKRCEWIYRGSTRLEPMFSMKTSSASALEKKQGQLR TRPNMGAVRSKGPVVQYTQDLTGTGTQFKPVEPPQPTAPPAPPFPPA PPLSPQAGDSDLESQLAQSRKQVAKKSTSFRRPGSVGSGHSSPTSPALS ENVSGGKPGINQTYRSPLGSTASAPAPSALPAPPAPPVFHGMLEPAPA EPSYRAPMEKLFYLPVHCSYTCLSRVRPMRNEQYRGKNPLLVPLLY DFRRMTARRRVNRKMGFHVYKTPCGLCLRTMQUEIERYLFETGCDL LFLEMFCCLDPYVLVDRKFQYKPFYIILDITYGKEDVPLSCVNEIDTT PPPQVAYSERIPGKGVFINTGPEFLVGCDCKDGCRDKSKCACHQLT IQATACTPGGQINPNSGYQYKRLEECLPTGVYECNKRCKCDPNMCT NRLVQHGLQVRLQLFKTQNKGWGIRCLDDIAKGSFVCIYAGKILTD DFADKEGLEMGDEYFANLDHIESVENFKEGYESDAPCSSDSSGVLDK DQEDGNSGTEDPEESNDDSSDDNFCKDEDFSTSSVWRSYATRRQTR GQKENGLSETTSKDSHPPDLGPPHIPVPPSIPVGGCNPSSSEETPKNKV ASWLSCNSVSEGGFADSDSHSSFKTNEGGEGRAGGSRMEAEKASTS

		GLGIKDEGDIKQAKKEDTDDRNMKMSVVTESRNYGYNPSPVKPEGL RRPPSKTSMHQSRRLMASAQSNPDDVLTLSSTESEGESGTSRKPTA GQTSATAVDSDDIQTISGSEGDDFEDKKNMTGPMKRQVAVKSTRG FALKSTHGIAIKSTNMAVDKGESAPVRKNTRQFYDGEESCYIIDAKL EGNLGRYLNHSCSPNLFVQNVFVDTHDLRFPWVAFFASKRIRAGTEL TWDYNYEVGSVEGKELLCCCGAIECRGRL
107999	Cas-MBD1	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALLSLGLTPNFKSNFDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVDKGAQAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDCKD FLDNEENEDILEDIVLTTLTFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIEKGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIILPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDENEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHRRDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDATLIHQSTGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMAEDWLDPCALPGWKRRE VFRKSGATCGRSDTYYSPTGDRI RSKVELTRYLGPACDLTLFDFKQGILCYPAPKAHPVAVASKKRKKPS RPAKTRKRQVGPQSGEVRKEAPRDETKADTDTAPASFPAPGCCENC GISFSGDGTQRQRLKTLCKDCRAQRIAFNREQRMFKRVGCGECAAC QVTEDCGACSTCLLQLPHDVASGLFCKCERRRCLRIVERSRGCGVCR GCQTQEDCGHCPICLRPPRGLRRQWKCVQRRCLRGKHARRKGGC DSKMAARRRPGAQPLPPPPPSQSPEPTEPHPRALAPSPPAEFYCYVD EDELQPYTNRRQNRKCGACAACLRMDCGRCDFCCDKPKFGGSNQ KRQKCRWRQCLQFAMKRLPSVWSESEDGAGSPPPYRRRKRPSSAR RHHLGPTLKPTLATRTAQPDHTQAPTKQEAGGGFVLPPTGDLVFLR EGASSPVQVPGPVAASTEALLQEAQCSGLSWVVALPQVKQEKADTQ DEWTPGTAVLTSPVLVPGCPSKAVDPGLPSVKQEPDPDEEDKEENKD DSASKLAPEEEAGGAGTPVITEIFSLGGTRFRDTAVWLPRSKDLKKP GARKQ
108019 0	Cas-MBD2	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS

		<p>DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKDQYDDD LDNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPHK SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHHPENIVIEMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDQD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLHQSITGLYE TRIDLSQLGGDPKKRKRVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMRAHPGGGRCCPEQEEGESAAAGGSGAGGDSAIEQGGQGSALAPS PVSGVRREGARGGGRGRGRWKQAGRGGGVCGRGRGRGRGRGRGR GRGRGRGRPPSGGSLGGDGGGCGGGGSGGGGAPRREPVPFPGSA GPGPRGRATESGKRMDCPALPPGWKKEEVIRKSGLSAGKSDVYYF SPSGKKFRSKPQLARYLGNTVDLSSFDFTGKMMPSKLQKNKQRLR NDPLNQNKGKPDNLNTLPIRQTASIFKQPVTNHPNSKVKSDPQR MNEQPRQLFWEKRLQGLSASDVTEQIIKTMELPKGLQGVGPGSNDE TLLSAVASALHTSSAPITGQVSAAVEKNPAVWLNTSQPLCKAFIVTD EDIRKQEERVQQVRKKLEELMADILSRAADTEEMDIEMDSGDEA</p>
108140 +	Cas-MBD3	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKDQYDDD LDNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPHK SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHHPENIVIEMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDQD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ</p>

		LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGITALIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHARDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMERKRWECPALPQGWEREVPRRSGLSAGHRDVFFYSPSGKKFR SKPQLARYLGGSM DLSTDFDRTGKMLMSKMNKSRQRVRYDSSNQV KGKPDNL TALPVRQTASIFKQPVTKITNHP SNKVKSDPQKAVDQPRQ LFWKKLSGLNAFDIAEELVKTMDLPKGLQGVGPGCTDETLLSAIAS ALHTSTMPITGQLSAAVEKNPGVWLNTTQPLCKAFMVTDEDIRKQE ELVQQVRKRLEEALMADMLAHVEELARDGEAPL DKACAEDDDEED EEEEEEPPDPPEMEHV
108240 2	Cas-MBD4	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLNLI QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVDK GASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKS DGFANRNF MQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKV VDE LVKVMGRHKPENIVIE MARENQTTQKGQKNSRERMKRIE EGikelGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEE VVKMKKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGITALIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHARDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMGTTGLESLSLGDRGAAPT VTSSERLVPDPPNDLRKEDVAMELE RVGEDEEQMMIKRSSECNPLLQEPIAS AQFGATAGTECRKSVPCGWE RVVKQRLFGKTAGRFDVYFISPQGLKFRSKSSLANYLHKNGETSLKP EDFDFTVLSKRGIKSRYKDCSMAAL TSHLQNSNSNWNLRTRSKC KKDVFMPSSSSSELQESRGLSNFTSTHLLKKEDEGVDDVNFRKVRKP

		KGKVTILKGIPIKKTKKGCRKSCSGFVQSDSKRESVCNKADAESPEV AQKSQLDRTVCISDAGACGETLSVTSEENSLVKKKERSLSSGSNFCSE QKTSGIINKFCSAKDSEHNEKYEDTFLESEEIGTKVEVVERKEHLHTD ILKRGSEMDNNCSPTRKDFTGEKIFQEDTIPRTQIERRKTSLYFSSKYN KEALSPRRKAFKKWTPPRSPFNLVQETLFHDPWKLLIATIFLNRTSG KMAIPVLWKFLKYPSAEVARTADWRDVSELLKPLGLYDLRAKTIV KFSDEYLTQWKYPIELHGIGKYGNDSYRIFCVNEWKQVHPEDHKL NKYHDWLWENHEKLSLS
108340 3	Cas- MeCP2	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLEPKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVDKGASAQSFIERMTNFDKNLPNEKVLPHK SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDGD FLDNEENEDILEDIVLTTLTFEDREMIEERLKTIAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDGD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGSELDAKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEKGSKKLKSVMKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLEFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDATLIHQSTGLYE TRIDLSQLGGDPKKRKRVGGPSSGAPPPSGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMVAGMLGLREEKSEDQDLQGLKDKPLKFKKVKDKKKEEKEGK HEPVQPSAHHSAEPAEAGKAETSEGSGSAPAVPEASAPKQRRSIIRD RGPMYDDPTLPEGWTRKLKQRKSGRSAGKYDVYLINPQGKAFRSK VELIAYFEKVGDTSLDPNDFDFTVTGRGSPSRREQPPKPKPKSPKAPG TGRGRGRPKGSGTTRPKAATSEGVQVKRVLEKSPGKLLVKMPFQTS PGGKAEGGATTSTQVMVIKRPGRKRKAADPQAIPKKRGRKPGSV VAAAAAEAKKAVKESSIRSVQETVLPKIKRKTRETVSIEVKEVVKP LLVSTLGEKSGKGLKTCKSPGRKSKESSPKGRSSSASSPPKKEHHHH HHHSESPKAPVPLLPPLPPPPPEPESEDPTSPPEPQDLSSSVCKEEKMP RGGSLSDGCPKEPAKTQPAVATAATAAEKYKHRGEGERKDIVSSS MPRPNREEPVDSRTPVTERVS
108410 4	Cas-Kap1	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA

		<p>QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDKD FLDNEENEDILEDIVLTTLTFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVD LVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIEFIGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLEFENGRKRL ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLHQSITGLYE TRIDLSQLGGDPKKRKRVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMAASAAAASAAAASAAASGSPGPGEGSAGGEKRSTAPSAAAASASA SAAASSPAGGGAEELELLEHCGVCRERLRPEREPRLLPCLHSACSAC LGPAAPAAANSSGDGGAAGDGTVDPCVCKQQCFKSDIVENYFMR DSGSKAATDAQDANQCCTSCEDNAPATSYCVECSEPLCETCVEAHQ RVKYTKDHTVRSTGPAKSRDGERTVYCNVHKHEPLVLFCESCDTLT CRDCQLNAHKDHQYQFLEDAVRNQRKLLASLVKRLGDKHATLQKS TKEVRSSIRQVSDVQKRVQVDVKMAILQIMKELNKRGRVLVND AQKVTEGQQRERLERQHWMTMTIKQKHQEHILRFASWALESNDNTALLS KKLIYFQLHRALKMIVDPVEPHGEMKFQWDLNAWTKSAEAFGKIVA ERPGTNSTGPAPMAPPRAPGPLSKQSGSSQPMQEVQEGYGFSGDDP YSSAEPHVSGVKRSRSGEGEVSGLMRKVPRVSLERLDLDTADSQPP VFKVFPGSTTEDYNLIVIERGAAAAATGQPGTAPAGTPGAPPLAGMA IVKEEETEAAGAPPTATEGPETKPVLMALAEGPGAEGPRLASPSGST SSGLEVVAPGTSAPGGGPGTLDDSATICRVCKQKPGDLVMCNQCEFC FHLDCPLPALQDVPGEWWSLCHVLPDLKEEDGSLSLDGADSTGV VAKLSPANQRKCERVLALFCHEPCRPLHQLATDSTFSLDQPGGTLD LTLIRARLQEKLSPPYSSPQEFADVGRMFKQFNKLTEDKADVQSIIG LQRFETRMNEAFGDTKFSAVLVEPPPMSPGAGLSSQELSGGPGDG P</p>
<div>108519</div> <div>5</div>	Cas-HP1a	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADRLIYLALAHMIKFRGHFLIEGDLNPDNS DVKLFIQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW</p>

		MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHHPENIVIEMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLEFLENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHARDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMGKKTKRTADSSSEDEEEYVVEKVLDRRVVKGQVEYLLKWKG FSEHNTWEPEKNLDCPELISEFMKKYKKMKKEGENNKPREKSES NK RKS NFS NSADDIKSKKKREQSNDIARGFERGLEPEKII GATDSCGDL M FLMKWKG TDEADLV LAKEANVKCPQIVIAFYEERLTWHAYPEDAE NKEKETAKS
108619 6	Cas-HP1b	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFS NEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLV DSTDKADRLIYLALAHMIKFRGHFLIEGDLNPDNS DVKDLFIQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLNLI QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHHPENIVIEMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLEFLENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHARDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYE

		TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMGKKQNKKKVEEVLEEEEEYYVEKVLDRRVVGKVEYLLKW KGFSDDEDNTWEPEENLDCPDLIAEFLQSQKTAHETDKSEGGRKADS DSEDKGEESKPKKKKEESEKPRGFARGLEPERIIGATDSSGELMFLM KWKNSDEADLVPAKEANVKCPQVVISFYEERLTWHSYPSEDDDDKK DDKN
108710 7	Cas-HP1g	MGTPKKKRKVMDKKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADRLIYLALAHMIKFRGHFLIEGDLNPDNS DVKDLFIQLVQTYNQLFEENPINASGVDAKILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSAAILSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLEPKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDGD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMLIHD DSLTFKEDIQKAQVSGQDLSHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDGD AIVPQSFLKDDSIDNKVLRSDKNRGKSDNVPSEEVVKMKKNYWRQ LLNAKLITQRKFDNLTAKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNVKKTQVQTTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGSKKLKSVMKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELNGRKRML ASAGELQKGNELALPSKYVNFYLYASHYEKLGKSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDATLIHQSTGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMASNKTTLQKMGGKQNGKSKKVEEAEPEEFVVEKVLDRRVVNG KVEYFLKWKGFTDADNTWEPEENLDCPELIEAFLNSQKAGKEKDGT KRKSLSDSESDSKSKKRDAADKPRGFARGLDPERIIGATDSSGEL MFLMKWKDSDEADLVLAKEANMKCPQIVIAFYEERLTWHSPEDE AQ
108810 8	Cas-SetDB2	MGTPKKKRKVMDKKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADRLIYLALAHMIKFRGHFLIEGDLNPDNS DVKDLFIQLVQTYNQLFEENPINASGVDAKILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSAAILSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLEPKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR

		<p>KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVD LVKVMGRHHPENIVIEMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNVKKTVEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLEFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDATLIHQSTGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMGEKNGDAKTFWMELEDDGKVDFFIFEQVQNVLQSLKQKIKDGS ATNKEYIQAMILVNEATIINSSTSIKASQKEVNAQSSDPMPVTQKEQ ENKSNAPSTSCENSFPEDCTFLT TENKEILSLEDKVVDFREKDSNNL SYQSHDCSGACLMKMPLNLKGENPLQLPIKCHFQRRHAKTNSHSSA LHVS YKTPCGRSLRNVEEVFRYLLETECNFLFTDNFSFNTYVQLARN YPKQKEVVSDVDISNGVESVPISFCNEIDSRKLPQFKYRKTVWPRAY NLTNFSSMFTDSCDCSEGCIDITKCAQLTARNAKTSPLSSDKITTG YKYKRLQRQIPTGIYECSSLCKCNRQLCQNRVVQHGPQVRLQVFKT EQKGWGVRCDDIDRGTFVCIYSGRLLSRANTEKSYGIDENGRDENT MKNIFSKRKLEVACSDCEVEVLPLGLETHPRTAKTEKCPPKFSNNP KELTVETKYDNISRIQYHSVIRDPESKTAIFQHNGKKMEFVSSES VTP EDNDGFKPPREHLNSKTGKAQKDSSSNHVDEFEDNLLIESDVIDITKY REETPPRSRCNQATTLDNQNIKKAIEVQIQKPQEGRSTACRQQVFC DEELLSETKNTSSDSLTKFNKGNVFLLDATKEGNVGRFLNHSCCPNL LVQNVFVETHNRNFPLVAFFTNRVVKARTELTWDYGYEAGTVPEKE IFCQCGVNKCRKKIL</p>
108940 9	Cas- SUV39H1	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFS NEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLV DSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLNLI QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYPLKDNREKIEKILTFRIPIYYVGPLARGNSRFAW MTRKSEETITPWNFEVVDKGASAQSFIERMTNFDKNLPNEKVLPHK SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVD LVKVMGRHHPENIVIEMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA</p>

		<p>QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIILPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVILADANLDKVL SAYNKHARDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMAENLKGCSVCKSSWNQLQDLCRLAKLSCPALGISKRNLYDFE VEYLC DYKKIREQEYYLVKWRGYPDSESTWEPRQNLKCV RILKQFH KDLERELLRRHRSKTPRHLDP SLANYLVQKAKQRRALRRWEQELN AKRSHLGRITVENEVDLDGPPRA FVYINEYRVGEGITLNQVAVGCEC QDCLWAPTGGCCPGASLHKFAYNDQGGVRLRAGLP IYECNSRCRCG YDCPNRVVQKGIRYDLCIFRTDDGRGWGVRTLEKIRKNSFVMEYVG EITSEEAEERRGQIYDRQGATYLF DLDYVEDVYTVDAAYYGNISHFV NHSCDPNLQVYNVFIDNLDERLPRIAFFATRTIRAGEELTFDYNMQV DPVDMESTRMDSNFGLAGLP GSPKKRVRIECKCGTESCRKYLE</p>
<div>109044</div> <div>θ</div>	<p>Cas- SUV39H1[H320R]</p>	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLV DSTDKADLR LIYLA LAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFE EVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKS DGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKVVDE LVKVMGRHKPENIVIE MARENQTTQKGQKNSRERMKRIE EGikelGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEE VVKMKKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIK RQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSKLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIILPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVILADANLDKVL SAYNKHARDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMAENLKGCSVCKSSWNQLQDLCRLAKLSCPALGISKRNLYDFE VEYLC DYKKIREQEYYLVKWRGYPDSESTWEPRQNLKCV RILKQFH KDLERELLRRHRSKTPRHLDP SLANYLVQKAKQRRALRRWEQELN AKRSHLGRITVENEVDLDGPPRA FVYINEYRVGEGITLNQVAVGCEC</p>

		QDCLWAPTGGCCPGASLHKFAYNDQGQVRLRAGLPIYECNSRCRCGYDCPNRVVQKGIRYDLCIFRTDDGRGWGVRTLEKIRKNSFVMEYVGEIITSEEAEERRGQIYDRQGATYLFDLDYVEDVYTVDAAYYGNISRFVNHSCDPNLQVYNVFDNLDERLPRIAFFATRTRIRAGEELTFDYNMQVDPVDMESTRMDSNFGLAGLPGSPKKRVRIECKCGTESCRKYLF
109144 4	Cas-SUV39H2	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQEIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNSDVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIAQLPGEKKNGLFGNLIASLGLTPNFKSNDLAEDAKLQLSKDITYDDDLDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKHSLLYEFYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDELVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIEELGKELGSGILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVAIVPQSFLKDDSIDNKVLRSDKNRGKSDNVPSEEVVKKMKNYWRQLLNAKLITQRKFDNLTKAERGGSELDAKAGFIKRQLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREINNYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRKVLSPQVNVKKTEVQTGGFSKESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELGITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELNGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVEQHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLHQSITGLYETRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSETGMAAVGAEGARGAWCVPCLVSLDTLQELCRKEKLTCKSIGITKRNLNNYEVEYLCDYKVVKDMEYYLVKWKGWPDSTNTWEPLQNLKCPLLLQQFSNDKHNYLSQVKKGKAITPKDNNKTLKPAIAEYIVKKAKQRIALQRWQDELNRRKNHKGMIFFVENTVDLEGPPSDFYYINEYKPAPGISLVNEATFGCSCTDCFFQKCCPAEAGVLLAYNKNQKIKPPGTPIYECNSRCQCGPDCPNRIVQKGTQYSLCIFRTSNGRGWGVKTLVKIKRMSFVMEYVGEVITSEEAEERRGQFYDNKGITYLFDLDYESDEFTVDAARYGNVSHFVNHSCDPNLQVFNVFDNLDTLRLPRIALFSTRITINAGEELTFDYQMKGSGDISSDSIDHSPAKKRVRTVCKCGAVTCRGYLN
109244 2	Cas-SUV420H1	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQEIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNSDVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIAQLPGEKKNGLFGNLIASLGLTPNFKSNDLAEDAKLQLSKDITYDDDLDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW

		MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNVKKTQVQTTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEKGSKKLKSVMKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLEFENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYE TRIDLSQLGGDPKKRKVGPGSSGAPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMKWLGESKNMVVNGRRNGGKLSNDHQNNQSKLQHTGKDTLKA GKNAVERRSNRCNGNSGFEGQSRYPSSGMSAKELCENDDLATSLV LDPYLGFTHKMNTSAFPSRSSRHFSKSDSFHNNPVRFRPIKGRQEE LKEVIERFKKDEHLEKAFKCLTSGEWARHYFLNKNMKQELFKHEHV FIYLRMFATDSGFEILPCNRYSSSEQNGAKIVATKEWKRNDKIELLVG CIAELSEIEENMLLRHGENDFSVMYSTRKNCAQLWLGPAAFINHDCR PNCKFVSTGRDTACVKALRDIEPGEEISCYYGDGFFGENNEFCECYT CERRGTGAFKSRVGLPAPAPVINSKYGLRETDKRLNRLKKLGSSKN SDSQSVSSNTDADTTQEKNNATSNRKSSVGKKNKSKSRTLTRQSMS RIPASSNSTSSKLTHINNSRVPKKLKKPAKPLLSKIKLRNHCKRLEQK NASRKLEMGNLVLKEPKVVLKYNLPIKKDKEPEGPAQAAVASGCLT RHAAREHRQNPVRGAHSQGESSPCTYITRRSVRTRTNLKEASDIKLE PNTLNGYKSSVTEPCPDSGEQLQPAPVLQEEELAHETAQKGEAKCH KSDTGMSKKKSRQGKLVKQFAKIEESTPVHDSGPKDDAVPDLMGPH SDQGEHSGTVGVPVSYTDCAPSPVGCSVVTSDSFKTKDSFRTAKSKK KRRITRYDAQLILENNSGIPKLTLLRRRHDSSTKNDQENDGMNSSKIS IKLSKDHDNDNNLYVAKLNNGFNSSGSGSSSTKLKIQKRDENRGSY TEGLHENGVCSDPLSLLESRMEVDDYSQYEEESTDDSSSSSEGDEEE DDYDDDFEDDFIPLPPAKRLRLIVGKDSIDIDISSRRREDQSLRLNA
109344 3	Cas- SUV420H2	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLLESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQVLQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGFLGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD

		DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGELSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGITALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVILADANLDKVL SAYNKHDKPIREQAEN IHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYE TRIDLSQLGGDPKKRKVGGPSSGAPPPSGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMGPDRVTARELCENDDLATSLVLDPYLGFRTHKMNVSPVPPLRR QQHLRSALETFLRQRDLEAAYRALTLGGWTARYFQSRGPRQEAALK THVYRYLRAFLPESGFTILPCTRYSMETNGAKIVSTRAWKKNEKLEL LVGCIAELREADEGLLRAGENDFSIMYSTRKRSACLWLGPAAFINHD CKPNCKFVPADGNAACVKVLRDIEPGDEVTCFYGEGFFGEKNEHCE CHTCERKGEAFRTRPREPALPPRPLDKYQLRETKRRLQQGLDSGSR QGLLGPRACVHPSPLRRDPFCAACQPLRLPACSARPDTSPLWLQWLP QPQPRVRPRKRRRPRRRAPVLSTHHAARVSLHRWGGCGPHCRLRG EALVALGQPPHARWAPQQDWHWARRYGLPYVVRVDLRRRLAPAPP ATPAPAGTPGPILIPKQALAFAPFSPPKRLRLVVSHGSIDLDVGGEEL
109411 4	Cas-EZH1	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSESLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSAMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEFVVDKGASAQSFIERMTNFDKNLPNEKVLPHK SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDKD FLDNEENEDILEDIVLTTLTFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGELSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGITALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVILADANLDKVL SAYNKHDKPIREQAEN IHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYE

		<p>TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMEIPNPPTSKCITYWKRKVKSEYMRLRQLKRLQANMGAKALYV ANFAKVQEKTQILNEEWKKLRVQPVQSMKPVSGHPFLKKCTIESIFP GFASQHMLMRSNTVALVPIMYSWSPLQQNFMVEDETVLCNIPYMG DEVKEEDETFFIELINNYDGKVHGEEEMIPGSVLISDAVFELELDALN QYSDEEEEGHNDTSDGKQDDSKEDLPVTRKRKRHAIEGNKSKSKKQ FPNDMIFSAIASMFPENGVPDDMKERYRELTEMSPNALPPQCTPNI DGPNAKSVQREQSLHSFHTLFCRRCFKYDCFLHPFHATPNVYKRKN KEIKIEPEPCGTDCFLLEGAKEYAMLHNPRSKCSGRRRRRRHHIVSAS CSNASASAVAETKEGDSDRDTGNDWASSSSEANSRCQTPTKQKASP APPQLCVVEAPSEPVEWTGAEESLFRVFHGTGFNNFCSARLLGTKT CKQVFQFAVKESLILKLPTDELMNPSQKKKRKHRLWAAHCRKIQLK KDNSSTQVYNYQPCDHPDRPCDSTCPCIMTQNFCEKFCQCNPDQCN RFPGCRCKTQCNTKQCPCYLAVRECDPDLCLTCGASEHWDCKVVSC KNCSIQRGLKKHLLLAPSDVAGWGTFIKESVQKNEFISEYCGELISQD EADRRGKVYDKYMSSFLFNLNNDFFVDATRKGNKIRFANHSVNPN CYAKVVMVNGDHRIGIFAKRAIQAGEELFFDYRYSQADALKYVGIE RETDVL</p>
<p>109544 5</p>	Cas-EZH2	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPHK SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEARENQTTQKGQKNSRERMKRIEELIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDQD AIVPQSFLKDDSIDNKVLTSDKNRKGSDNVPSEEVVKMKKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIIKLPKYSLELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHARDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLIHQSTGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMGQTGKKSEKGPVCWRKRKVSEYMRLRQLKRFRRRADEVKSMFS SNRQKILERTEILNQEWKQRRIQPVHILTSVSSLRGTRCSVTSDLDFP TQVIPLKTLNAVASVPIMYSWSPLQQNFMVEDETVLHNIPYMGDEV LDQDGTFFIELIKNYDGKVHGDRECGFINDEIFVELVNALGQYNDDD DDDDGDDPEEREKQKQDLEDHRDDKESRPPRKFPSPDKIFEAISSMFP</p>

		<p>DKGTAEELKEKYKELTEQQLPGALPPECTPNIDGPNAKSVQREQSLH SFHTLFCRRCFKYDCFLHPFHATPNTYKRKNTETALDNKPCGPQCYQ HLEGAKEFAAALTAERIKTPPKRPGGRRRGRLPNNSSRPSTPTINVLE SKDTDSREAGTETGGENNDKEEEEKKDETSSSSSEANSRCQTPIKMK PNIEPPENVEWSGAEASMFVRLIGTYYDNFCAIARLIGTKTCRQVYEF RVKESSIIAPAPAEDVDTPPRKKKRKHRLWAAHCRKIQLKKDGSSNH VYNYQPCDHPRQPCDSSCPCVIAQNFCEKFCQCSSECQNRFPGCRCR AQCNTKQCPCYLAVRECDPDLCLTCGAADHWDSKNVSKNCSIQR GSKKHLLLAPSDVAGWGIFIKDPVQKNEFISEYCGEIIISQDEADRRGK VYDKYMCSFLNLDNDFVVDATRKGNKIRFANHSVNPNCYAKVMM VNGDHRIGIFAKRAIQTGEELFFDYRYSQADALKYVGIEREMEIP</p>
<p>109611 6</p>	<p>Cas- EZH2[S21 A]</p>	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEIEGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKPLIETNGETGEIV WDKGRDFATVRKVLSPQVNVKKTETVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVAKVEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIKLPKYSLEFLENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLIHQSTGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMGQTGKKSEKGPVCWRKRVKAEYMRLRQLKRFRRADEVKSMF SSNRQKILERTEILNQEWKQRRIQPVHILTSVSSLRGTRECSVTSDLDF PTQVIPLKTLNAVASVPIMYSWSPLQQNFMVEDETVLHNPYMGDEV LDQDGTFFIEELIKNYDGKVHGDRECGFINDEIFVELVNALGQYND DDDDGDDPEEREKQKQDLEDHRDDKESRPPRKFPSDKIFEAISSMFP DKGTAEELKEKYKELTEQQLPGALPPECTPNIDGPNAKSVQREQSLH SFHTLFCRRCFKYDCFLHPFHATPNTYKRKNTETALDNKPCGPQCYQ HLEGAKEFAAALTAERIKTPPKRPGGRRRGRLPNNSSRPSTPTINVLE SKDTDSREAGTETGGENNDKEEEEKKDETSSSSSEANSRCQTPIKMK PNIEPPENVEWSGAEASMFVRLIGTYYDNFCAIARLIGTKTCRQVYEF RVKESSIIAPAPAEDVDTPPRKKKRKHRLWAAHCRKIQLKKDGSSNH VYNYQPCDHPRQPCDSSCPCVIAQNFCEKFCQCSSECQNRFPGCRCR AQCNTKQCPCYLAVRECDPDLCLTCGAADHWDSKNVSKNCSIQR</p>

		GSKKHLLAPSDVAGWGIFIKDPVQKNEFISEYCGEISQDEADRRGK VYDKYMCSFLFNLNDFVVDATRKGNKIRFANHSVNPNCYAKVMM VNGDHRIGIFAKRAIQTGEELFFDYRYSQADALKYVGIEREMEIP
109744 7	Cas- EHMT1	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEFVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDL LVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSFEKNPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLIHQSTGLYE TRIDLSQLGGDPKKRKVGSGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMAAADAEAVPARGEPQQDCCVKTELLGEETPMAADEGSAEKQA GEAHMAADGETNGSCENS DASSHANA AKHTQDSARVNPQDGTNTL TRIAENGVSERDSEAAKQNHVTADDFVQTSVIGSNGYILNKPALQAQ PLRTTSTLASSLPGHAAKTLP GGAGKGRTPSAFPQTPAAPPATLGECS ADTEDRKLPAPGADV K VHRARKTMPKS VVGLHAASKDPREVRAR DHKEPKKEINKNISDFGRQQLPPFPSLHQSLPQNQC YMATTKSQTA CLPFVLA AAVSRKKKRRMGTYSLVPKKKTKVLKQRTVIEMFKSITHS TVGSKGEKDLGASSLHVNGESLEMDSDDEDDSELEEDDGHGAEQAA AFPTEDSRTSKESMSEADRAQKMDGESEEEQESVDTGEEEGGDESD LSSESIKKKFLKRKGKTDSPWIKPARKRRRRSRKKPSGALGSESYKS SAGSAEQTAPGDSTGYMEVSLDSLDRVKGILSSQAEGLANGPDVLE TDGLQEVPLCSCRMETPKSREITTLANNQCMATESVDHELGRCTNSV VKYELMRPSNKAPLLVLCE DHRGRMVKHQCCPGCGYFCTAGNFME CQPESSISHRFHKDCASRVNNASYCPHCGEESKAKEVTIAKADTTST VTPVPGQEKGSAL EGRADTTT GSAAGPPLSEDDKLQGAASHVPEGF DPTGPAGLGRPTPGLSQGPGETLESALIALDSEKPKLRFHPKQLYF SARQGELQKVLLMLVDGIDPNFKMEHQNKRSPLHAAA EAGHVDICH MLVQAGANIDTCSEDQRTPLMEAAENNHLEAVKYLIKAGALVDPK DAEGSTCLHLAAKKGHYEVVQYLLSNGQMDVNCQDDGGWTPMIW ATEYKHVDLVKLLLSKGS DINIRDNEENICLHWA AFGSCVDIAEILLA AKCDLHAVNIHGDSPLHIAARENRYDCVVLFLSRDSDVTLKNKEGE

		TPLQCASLNSQVWSALQMSKALQDSAPDRPSPVERIVSRDIARGYER IPIPCVNAVDSEPCPSNYKYVSQNCVTSPMNIDRNITHLQYCVCIDDC SSSNCMCGQLSMRCWYDKDGRLLPEFNMAEPPLIFECNHACSCWRN CRNRVVQNGLRARLQLYRTRDMGWGVRSLLQDIPPGTFVCEYVGELI SDSEADVREEDSYLFDLDNDKDGEVYCIDARFYGNVSRFINHHCEPNL VPVRVFMHQDLRFPRIAFFSTRLEAGEQLGFDYGERFWDIKGKLF8 CRCGSPKCRHSSAALAQRQASAAQEAQEDGLPDTSSAAAADPL
109811 &	Cas- EHMT2	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADRLIYLALAHMIKFRGHFLIEGDLNPDNS DVKDLFIQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVDKGGASAQSFIERMTNFDKNLPNEKVLPHK SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMLIHD DSLTFKEDIQKAQVSGQDLSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKKNYWRQ LLNAKLITQRKFDNLTKAERGGSLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSLLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGGSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDENEQKQLFVE QHKHYLDEIIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLHQSITGLYE TRIDLSQLGGDPKKRKRVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMAAAAGAAAAAAAEGEAPAEMGALLLEKETRGATERVHGSLG DTPRSEETLPKATPDSLEPAGPSSPASVTVTVGDEGADTPVGATPLIG DESENLEGDGDLRGGRILLGHATKSFSPSSPSKGGSCPSRAKMSMTGA GKSPPSVQSLAMRLLSMPGAQGAAAAGSEPPPATTSPGQPKVHRA RKTMSKPGNGQPPVPEKRPPEIQHFRMSDDVHSLGKVTSDLAKRRK LNSGGGLSEELGSARRSGEVTLTKGDPGSLEEWETVVGDDDFSLYYDS YSVDERVDSDSKSEVEALTEQLSEEEEEEEEEEEEEEEEEEEEEED EESGNQSDRSGSSGRRKAKKKWRKDSPPWVKPSRKRKRREPPRAKEP RGVNGVGSSGPSEYMEVPLGSLELPSEGTLSPNHAGVSNDTSSLETE RGFEELPLCSCRMEAPKIDRISERAGHKCMATESVDGELSGCNAAIL KRETMRPSSRVALMVLCETHRARMVKHHCCPGCGYFCTAGTFLEC HPDFRVAHRFHKACVSQNLGMVFCPHCGEDASEAQEV TIPRGDGV PPAGTAAPAPPPLSQDVPGRADTSQPSARMRGHGEPRRPPCDPLADT IDSSGPSLTLPNGGCLSAVGLPLGPGREALEKALVIQESERRKKLRFH PRQLYLSVKQGELQKVILMLLDNLDPNFQSDQKSKRTPLHAAAQKG SVEICHVLLQAGANINAVDKQQRTPLEAVVNNHLEVARYMVQRG GCVYSKEEDGSTCLHHAAKIGNLEMVSLLLSTGQVDVNAQDSGGW

		<p>TPIIWAAEHKHIEVIRMLLTRGADVTLTDNEENICLHWASFTGSAAIA EVLLNARCDLHAVNYHGDTPHIAARESYHDCVLLFLSRGANPELR NKEGDTAWDLTPERSDVWFALQLNRKLRLGVGNRAIRTEKIICRDV ARGYENVPIPCVNGVDGEPEDYKYISENCETSTMNIDRNITHLQH CTCVDDCSSNCLCGQLSIRCWYDKDGRLLQEFNKIEPPLIFECNQAC SCWRNCKNRVVQSGIKVRLQLYRTAKMGWGVRLALQTIPQGTFIGEY VGELISDAEADVREDDSYLFDLDNDKDGEVYCIDARYYGNISRFINHL CDPNIPVRVFMLHQDLRFPRIAFFSSRDIRTGEELGFDYGDREFWDIKS KYFTCQCGSEKCKHSAEIALEQSRLARLDPHPELLPELGSPLPPVNT</p>
<div>109941</div> <div>9</div>	Cas-LSD1	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPKEYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVDKVGASQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDND FLDNEENEDILEDIVLTLTLFEDREMIEERLKTIAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDFANRNFMLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDND AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVDYVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNVKKTETVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSEFKNPIDFLEAKGYKEVKKDLIIKLPKYSLEFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDATLIHQITGLYE TRIDLSQLGGDPKKRKVGGPSSGAPPPSGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMLSGKKAIAAAAAAAAAAATGTEAGPGTAGGSENGSEVAAQPA GLSGPAEVGPGAVGERTPRKKEPPRASPPGGLAEPPGSAGPQAGPTV VPGSATPMETGIAETPEGRRTSRRKRAKVEYREMDLANLSEDEYY SEEERNAKAEKEKKLPPPPQAPPEEENESEPEEPSGVEGAAFQSRLP HDRMTSQEAACFPDIISGPQQTQKVFLFIRNRTLQLWLDNPKIQLTFE ATLQQLEAPYNSDTVLVHRVHSYLERHGLINFGIYKRIKPLPTKKTG KVIIIGSGVSGLAARQLQSFQMDVTLLEARDRVGGRVATFRKGN VADLGAMVVTGLGGNPMVAVVSKQVNMELAKIKQKCPLYEANGQA VPKEKDEMVEQEFNRLLEATSLSHQLDFNVNLNKPVSLSGQALEVV IQLQEKHVKDEQIEHWKKIVKTQEELKELLNKMVNLKEKIKELHQQ YKEASEVKPPRDITAEFLVSKSKHRDLTALCKEYDELAETQGKLEEL QELANPPSDVYLSSRDRQILDWHFANLEFANATPLSTLSLKHWDQD DDFEFTGSHLTVRNGYSCVPVALAEGLDIKLNTAVRQVRYTASGCE VIAVNTRSTSQTFIYKCDVAVLCTPLGLVKQPPAVQFVPLPEWKT AVQRMGFGNLNKVVLCFDRVFWDPVNLFGHVGSTTASRGELFLF</p>

		WNLYKAPILLALVAGEAAGIMENISDDVIVGRCLAILKGIFGSSAVPQ PKETVVSRRWADPWARGSYSYVAAGSSGNDYDLMAQPITPGPSIPG APQPIPRLFFAGEHTIRNYPATVHGALLSGLREAGRIADQFLGAMYTL PRQATPGVPAQQSPSM
110020	Cas-SUZ12	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALLSLGLTPNFKSNFDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNVKKTETVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKDLIIKLPKYSLFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLHQSITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMAPQKHGGGGGGGGSGPSAGSGGGGGGSAVAATAASGGKSG GGSCGGGGSYSASSSSSSAAAAAGAAVLPVKKPKMEHVQADHELFL QAFEKPTQIYRFLRTRNLIPIFLHRTLYMSHRNSRTNIKRKTFKVD DMLSKVEKMKGEQESHLSAHLQLTFTGFFHKNDKPSPNSENEQNS VTLEVLLVKVCHKRKRKDVSCPIRQVPTGKKQVPLNPDNLNQTGPNF PSLAVSSNEFEPNSNHMVKSYSLLFRVTRPGRREFNGMINGETNENID VNEELPARRKRNREDGEKTFVAQMTVFDKNRRLQLLDGEYEVAMQ EMECPISKKRATWETILDGKRLPPFETFSQGPTLQFTLRWTGETNDK STAPIAKPLATRNSLSHQENKPGSVKPTQTIAVKESLTTDLQTRKEK DTPNENRQKLRIFYQFLYNNNTRQQTEARDDLHCPWCTLNCRKLYS LLKHLKLCHSRFIFNYVYHPKGARIDVSINECYDGSYAGNPQDIHRQ PGFAFSRNGPVKRTPIHILVCRPKRTKASMSEFLESEDEGEVEQRTY SSGHNRLYFHSDTCLPLRPQEMEVDSEDEKDPWLREKTTITQIEEFS VNEGEKEVMKLWNLHVMKHGFIADNQMNHACMLFVENYGGKIIK KNLCRNFMHLVSMHDFNLISIMSIDKAVTKLREMQQKLEKGESASP ANEEITEEQNGTANGFSEINSKEKALETDSVSGVSKQSKKQKL
110124	Cas-EED	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS

		<p>DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKDQYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLEPKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYPPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSSEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHHPENIVIEMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLHQSITGLYE TRIDLSQLGGDPKKRKRVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMSEREVSTAPAGTDMPPAAKKQKLSSDENSNPDLSGDENDDAVSI ESGTNTERPDTPNTNPNAPGRKSWGKGKWKSKCKYSFKCVNSLKE DHNQPLFGVQFNWHSKEGDPLVFATVGSNRVTLYECHSQGEIRLLQ SYVDADADENFYTCAWTYDSNTSHPLLAVAGSRGIIRIINPITMQCIK HYVGHGNAINELKFHPRDPNLLLSVSKDHALLRWNITDTLVAIFGG VEGHRDEVLSADYDLLGEKIMSCGMDHSLKLWRINSKRMMNAIKES YDYNPNKTNRPFISQKIHPDFSTRDIHRNYVDCVRWLGDILSKSCE NAIVCWKPGKMEDDIDKIKPSESNVTILGRFDYSQCDIWMRFSMDF WQKMLALGNQVGKLYVWDLEVEDPHKAKCTTLTHHKCGAAIRQT SFSRDSSILIAVCDDASIWRWDRLR</p>
110222	Cas- RING1	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKDQYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLEPKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYPPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSSEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHHPENIVIEMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD</p>

		AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGITALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKKGSKKLKSVKELLG ITIMERSSEKKNPIDFLEAKGYKEVKKDLIILPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMTPPANAQNASKTWELSLYELHRTPEAIMDGTIAVSPRSLHSE LMCPICLDMLKNTMTTKECLHRFCSDCIVTALRSGNKECPTCRKKLV SKRSLRPDPNFDALISKIYPSREEYEAHQDRVLIRLSRLHNQQALSSSI EEGLRMQAMHRAQRVRRPIPGSDQTTTMSGGEGEPGEGEDGEDVS SDSAPDSAPGPAPKRPRGGGAGGSSVGTGGGGTGGVGGGAGSEDSG DRGGTLGGGTGLGPPSPGAPSPPEPGGEIELVFRPHPLLVEKGEYCQT RYVKTGTGNATVDHL SKYLALRIALERRQQQEAGEPGGPGGGASDTG GPDGCGGEGGGAGGGDGPEEPALPSLEGVSEKQYTIYIAPGGGAFTT LNGSLTLELVNEKFWKVSRLPLELCYAPTKDPK
110323	Cas- RING2	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLV DSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQVLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDFANRNFMLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDL LVKVMGRHKPENIVIEAMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGITALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKKGSKKLKSVKELLG ITIMERSSEKKNPIDFLEAKGYKEVKKDLIILPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQSTGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMSQAVQTNGTQPLSKTWELSLYELQRTPEAITDGLIIVSPRSL HSELMCPICLDMLKNTMTTKECLHRFCADCIITALRSGNKECPTCRK

		KLVSKRSLRPDPNFDALISKIYPSRDEYEAHQERVLARINKHNNQQA LSHSIEEGLKIQAMNRLQRGKKQIENGSGAEDNGDSSHCSNASTHS NQEAGPSNKRRTKTSDDSGLELDNNAAMAIDPVMGASEIELVFRP HPTLMEKDDSAQTRYIKTSGNATVDHLSKYLAVRLALEELRSKGES NQMNLDTASEKQYTIYIATASGQFTVLNGSFSLELVSEKYWKVNKP MELYYAPTKEHK
110424	Cas-PHC1	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPHIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADRLIYLALAHMIKFRGHFLIEGDLNPDNS DVKLFIQLVQTYNQLFEENPINASGVDAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVD LVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIEEGIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDENEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHARDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDATLIHQSTGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMETESEQNSNSTNGSSSSGSSRPQIAQMSLYERQAVQALQALQR QPNAAQYFHFQMLQQQLSNAQLHSLAAVQQATIAASRQASSPNTST TQQQTTTTQASINLATTSAQLISRSQSVSSPSATTLTQSVLLGNTTSP PLNQSQAQMYLRPQLGNLLQVNRTLGRNVPLASQLILMPNGAVAAV QQEVPSAQSPGVHADADQVQNLAVRNQQASAQGPQMKGSTQKAIP PGASPVSSLSQASSQALAVAQASSGATNQSLNLSQAGGGSGNSIPGS MGPGGGGQAHGGLGQLPSSGMGGGSCPRKGTGVVQPLPAAQTVTV SQGSQTEAESAAAKKAEADGSGQQNVGMNLTRTATPAPSQTLISSA TYTQIQPHSLIQQQQQIHLQKQVVIQQQIAIHHQQQFQHRQSQLLHT ATHLQLAQQQQQQQQQQQQQQQQPQATTLTAPQPPQVPPTQQVPPSQ SQQQAQTLVVQPMLQSSPLSLPPDAAPKPPPIQSKPPVAPIKPPQLGA AKMSAAQPPPHIPVQVVGTGRQPGTAQAQALGLAQLAAAVPTSRG MPGTVQSGQAHLASSPPSSQAPGALQECPTLAPGMTLAPVQGTAH VVKGGATTSSPVVAQVPAAFYMQSVHLPKGPQTLAVKRKADSEER DDVSTLGSMLPAKASPAESPKVMDEKSSLGEKAESVANVNANTPS SELVALTPAPSVPPPTLAMVSRQMGDSKPPQAIVKPQILTHIEGFVIQ EGAEPFVGCSQLLKESEKPLQTGLPTGLTENQSGGPLGVDSPSAELD KKANLLKCEYCGKYAPAEQFRGSKRFCSMTCAKRYNVSCSHQFRLK

		RKKMKEFQEANYARVRRRGPRRSSSDIARAKIQGKCHRGQEDSSRG SDNSSYDEALSPTSPGPLSVRAGHGERDLGNPNTAPPTPELHGPNVF LSSNPSRWSVEEVYEFIASLQGCQEIAEEFRSQEIDGQALLLLKEEHL MSAMNIKLGPALKICAKINVLET
110525	Cas-BMI1	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALLSLGLTPNFKSNDLAEDAKLQLSKDQYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEFYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIEKGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDQD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNVKKTQVQTTGGFSKESILPKRNSDKLI ARKKDWDPPKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKDLIIKLPKYSLFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLHQSITGLYE TRIDLSQLGGDPKKRKVGSGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMHRTTRIKITELNPHLMCVLCGGYFIDATTIIECLHSFCKTCIVRYL ETSKYCPICDVQVHKTRPLLNIKSDKTLQDIVYKLVPLGFKNEMKRR RDFYAAHPSADAANGSNEDRGEVADEDKRIITDDEIISLSIEFFDQNR LDRKVNKDKEKSKEEVNDKRYLRCPAAMTVMHLRKFRLSKMDIPN TFQIDVMYEEEPKDYITLMDIAYIYTWRNGLPLKYRVRPTCKR MKISHQRDGLTNAGELESDSGSDKANSPPAGGIPSTSSCLPSPSTPVQS PHPQFPHISSTMNGTSNPSGNHQSSFANRPRKSSVNGSSATSSG
110626	Cas-RBP4	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALLSLGLTPNFKSNDLAEDAKLQLSKDQYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEFYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIKDKD

		<p>FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIIKLPKYSLELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLHQSITGLYE TRIDLSQLGGDPKKRKRKVGPPSSGAPPPSGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMADKEAAFDDAVEERVINEEYKIWKKNTPFLYDLVMTHALEWP SLTAQWLPDVTREPGKDFSIHRLVLGTHTSDEQNLHVIASVQLPNDD AQFDASHYDSEKGEFGGFGSVSGKIEIEIKINHEGEVNRARYMPQNP CIIATKTPSSDVLVFDYTKHPSKPDPSGECNPDRLRLRGHQKEGYGLS WNPNLSGHLLSASDDHTICLWDISAVPKEGKVVDKTIPTGHTAVVE DVSWHLLHESLFGSVADDQKLMIWDTRSNNTSKPSHSVDAHTAEVN CLSFNPYSEFILATGSADKTVALWDLRNLKLKLHSFESHKDEIFQVQ WSPHNETILASSGTDRRLNVWDL SKIGEEQSPEDAEDGPPELLFIHGG HTAKISDFSWNPNEPWVICSVSEDNIMQVWQMAENIYNDEDPEGSV DPEGQGS</p>
110727	Cas- RBBP7	<p>MGTPKKKRKVMMDKKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADRLIYLALAHMIKFRGHFLIEGDLNPDNS DVKLFIQLVQTYNQLFEENPINASGVDAKAIL SARLSKSRRLNLI QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKD TYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSAMI KRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVDKGAS AQSFIERMTNFDKNLPNEKVLPHK SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIIKLPKYSLELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE</p>

		QHKHYLDEIIEQISEFSKRVILADANLDKVL SAYNKH RDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMASKEMFEDTVEERVINEEYKIWKKNTPFLYDLVMTHALQWPSL TVQWLPEVTKPEGKDYALHWLVLGTHTSDEQNLVVARVHIPNDD AQFDASHCDSKGEFGFGSVTGKIECEIKINHEGEVNRARYMPQNP HIIATKTPSSDVLVFDYTKHPAKPDPSGECNPDRLRLRGHQKEGYGLS WNSNLSGHL SASDDHTVCLWDINAGPKEGKIVDAKAIFTGHS AVV EDVAWHLLHESLFGSVADDQKLMIWDTRSNTTSKPSHLVDAHTAEV NCLSFNPYSEFILATGSADKTVALWDLRNLKLLHTFESHKDEIFQV HWSPHNETILASSGTDRLNVWDL SKIGEEQSAEDAEDGPPELLFIHG GHTAKISDFS WNPNEPWVICSVSEDNIMQIWQMAENIYNDEESDVT SELEGQGS
110828	Cas-REST	MGTPKKKRKVM DKKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFS NEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLV DSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRL ENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKD KD FLDNEENEDILEDIVLTTLTFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNF MQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKV VDE LVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIE EGikelGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEE VVKMKKNYWRQ LLNAKLITQRKFDNLTKAERGG LSELDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKS KLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIAK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKGFDSP TVAYSVLVVAKVEKGKSKKLKSVKELLG ITIMERS SFEKNPIDFLEAKGYKEVKKDLI IKLPKYSLFEL ENGRK RML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVILADANLDKVL SAYNKH RDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMATQVMGQSSGGGGLFTSSGNIGMALPNDMYDLHDLSKAELAA PQLIMLANVALTGEVNGSCCDYLVGEERQMAELMPVGDNNFSDSEE GEGLEESADIKGEPHGL ENMELRSLELSVVEPQPVFEASGAPDIYSSN KDLPPETPGAEDKGKSSKTKPFRCKPCQYEA ESEEQFVHHIRVHSAK KFFVEESA EKQAKARESGSSTAEEGDFSKGPIRCDRCGYNTNRYDHY TAHLKHHTRAGDNERVYKCICTYTTVSEYHWRKHLRNHFPRKVYT CGKCNFYSDRKN NYVQHVRTH TGERPYKCELCPYSSSQKTHLTRHM RTHSGEKPFKCDQCSYVASNQHEVTRHARQVHNGPKPLNCPHCDY KTADRSNFKKHVELHVNPRQFNCPCDYAASKKCNLQYHFKSKHPT CPNKTMDVSKVKLKKTKKREADLPDNITNEKTEIEQTKIKGDVAGK

		<p>KNEKSVKAEKRDVSKEKKPSNNVSVIQVTTTRTRKSVTEVKEMDVHT GSNSEKFSKTKKSKRKLEVDSHSLHGPVNDEESSTKKKKKVESKSKN NSQEVPGDSKVEENKKQNTCMKKSTKKKTLKNKSSKSSKPPQKE PVEKGSAQMDPPQMGPAPTEAVQKGPVQVEPPPPMEHAQMEGAQI RPAPDEPVQMEVVQEGPAQKELLPPVEPAQMVGAQIVLAHMELEPP METAQTEVAQMGPAPMEPAQMEVAQVESAPMQVVQKEPVQMELS PPMEVVQKEPVQIELSPMEVVQKEPVKIELSPPIEVVQKEPVQMELS PPMGVVQKEPAQREPPPPREPLHMEPISSKKPPLRKDKKEKSNMQSE RARKEQVLIEVGLVPVKDSWLLKESVSTEDLSPSPPLPKENLREEAS GDQKLLNTGEGNKEAPLQKVGAEAEDESPLGLAANINESTHISSSGQ NLNTPGETLNGKHQTDIVCEMMDTDQNTRENLTGINSTVEEPVS PMLPPSAVEEREAVSKTALASPPATMAANESQEIDEDEGIHSHEGSDL SDNMSEGSDDSGLHGARPVPQESSRKNAKEALAVKAAKGDFVCIFC DRSFRKGKDYSKHLNRHLVNVYYLEEAQGGQ</p>
110929	Cas-RCOR1	<p>MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVD LVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIEELIKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQ LLNAKLITQRKFDNLTKAERGGSELDDKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKGFDSPVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSEKPNIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLIHQSIITGLYE TRIDLSQLGGDPKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMPAMVEKGPEVSGKRRGRNNAASASAAAASAAASAAACASPAA TAASGAAASSASAAAASAAAAPNNGQNKSLAAAAPNGNSSNSWE EGSSGSSSDEEHGGGMRVGPQYQAVVPDFDPAKLARRSQERDNLG MLVWSPNQNLSEAKLDEYIAIAKEKHGYNMEQALGMLFWHKHNE KSLADLPNFTPPDEWTVEDKVLFEQAFSFGKTFHRIQQMLPDKSI ASLVKFYYSWKKTRTKTSVMDRHARKQKRERESEDELEEANGNN PIDIEVDQNKESKKEVPPTETVPQVKKEKHSTQAKNRAKRKPPKGMF LSQEDVEAVSANATAATTVLRQLDMELVSVKRQIQNIQTNSALKE KLDGGIEPYRLPEVIQKCNARWTTEEQLLAVQAIRKYGRDFQAISDVI</p>

		GNKSVVQVKNFFVNYRRRFNIDEVLQEWAEHGKEETNGPSNQKPVKSPDNSIKMPEEEDEAPVLDVRYASAS
111039	Cas-SIN3A	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQEIFSNEMAKVDDSFHRLEESFLVEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNSDVDKLFQQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIAQLPGEKKNGLFGNLIALLSLGLTPNFKSNFDLAEDAKLQLSKDQYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKHSLLYEFYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEELGKELGSQLKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKQQLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREINNYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLIARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLGITIMERSSEFKNPIDFLEAKGYKEVKKDLIIKLPKYSLEFENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVEQHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLIHQSTGLYEYTRIDLSQLGGDPKKKRKVGSGPSSGAPPPSGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSETGMKRRLDDQESPVYAAQQRRIQSGTEAFPHQHRVLAPAPPVYEAVSETMQSATGIQYSVTPSYQVSAMPQSSGSHGPAIAAVHSSHHHTAVQPHGGQVVQSHAHPPAPVAPVQGGQQQFQRLKVEDALS YLDQVKLQFGSQPQVYNDFLDIMKEFKSQSIDTPGVISRVSQFLKGHPDLIMGFNTFLPPGYKIEVQTNDMVNVTTPGQVHQIPTHGIQPPQPPQHPSPQSAQSAPAPAQPAPQPPPAKVSQPSQLQAHTPASQQTPLPPYASPRSPPVQPHTPVTISLGTAPSLQNNQPVFNFHAINYVNIKINRFQGGQPDYKAFLEILHTYQKEQRNAKEAGGNYTPALTEQEVYAQVARLFKNQEDLLSEFGQFLPDANSSVLLSKTTAEKVDSVRNDHGGTVKKPQLNNKPQRP SQNGCQIRRHPTGTPPVKKKPKLLNLKDSSMADASKHGGGTESLFFDKVRKALRSAEAYENFLRCLVIFNQEVISRAELVQLVSPFLGKFPELFNWFKNFLGYKESVHLETYPKERATEGIA MEIDYASCKRLGSSYRALPKSYQQPKCTGRTPLCKEVLNDTWVSFPSWSEDSTFVSSKKTQYEEHIYRCEDERFELDVVLETNLTATIRVLEAIQKKSRLSAAEQAKFRLDNTLGGTSEVIHRKALQRIYADKAADIIDGLRKNPSIAVPIVLKRLKMKEEEWREAQRGFNKVWREQNEKYLLKSLDHQGINFKQNDTKVLRSKSLLNEIESIYDERQEQA TEENAGVPVGP HLSLAYEDKQILEDAAALIIHHVKRQTGIQKEDKYKIKQIMHHFIPDLLFAQRGDLS DVEEEEEEMDVD EATGAVKKHNGVGGSPPKSKLLFSNTAAQKL RGMDEVYNLFYVNNNWYIFMRLHQILCLRLLRICSQAERQIEEENREREREVLGIKRDKSDSPAQLRLKEPMDVDVEDYYP AFLDMVRSLLDGNIDSSQYEDSLRE MFTIHAYIAFTMDKLIQSIVRQLQHIVSDEICVQVTDLYLAENNGAT

		GGQLNTQNSRSLLESTYQRKAEQLMSDENCFLMFIQSQGQVQLTIE LLDTEEENSDDPVEAERWSDYVERYMNSDTSPELREHLAQKPVFLP RNLRRIRKCQRGREQQEKEGKEGNSKKTMENTVDSLKLECRFKLNS YKMVYVIKSEDYMYRRRTALLRAHQSHERVSKRLHQRFQAWVDKW TKEHVPREMAAETSKWLMGEGLEGLVPCTTTCDTETLHFVSINKYR VKYGTVFKAP
11 1131	Cas- HDAC5	MGTPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPHIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADRLIYLALAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDITYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLEPKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKH SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFQMQLHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVD LVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKKNYWRQ LLNAKLITQRKFDNLTKAERGGSELDAKAGFIKRQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNVKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEVGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLEFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDENEQQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHARDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLHQSITGLYE TRIDLSQLGGDPKKKRKVGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE TGMNSPNESDGMMSGREPSLEILPRTSLHSIPVTVEVKPVLPRAMPSSM GGGGGGSPSPVELRGALVGSVDPTLREQQLQQELLALKQQQQLQKQ LLFAEFQKQHDHLTRQHEVQLQKHLKQQQEMLAAKQQQEMLAAK RQQELEQQRQREQQRQEELQKRLQQLLILRNKEKSKESAIASTEVE KLRLQEFLLSKSKEPTPGGLNHSPLQHPKCWGAHHASLDQSSPPQSG PPGTPPSYKLPLPGPYDSRDDFPLRKTASEPNLKVRSRLKQKVAERRS SPLLRRKDGTVISTFKKRAVEITGAGPGASSVCNSAPGSGPSSPNSSHS TIAENGFTGSVPNIPTMLPQHRALPLDSSPNQFSLYTSPSLPNISLGL QATVTVTNSHLTASPCLSTQQEAERQALQSLRQGGTLTGKFMSTSSI PGCLLGVALEGDGSPHGHASLLQHVLLLEQARQQSTLIAPVPLHGQSP LVTGERVATSMRTVGKLPRHRPLSRTQSSPLPQSPQALQQLVMQQQ HQQFLEKQKQQQLQLGKILTKTGELPRQPTTHPEETEEELTEQQEVL LGEGALTMPREGSTESESTQEDLEEEDEEDDGEEEDDCIQVKDEEGE SGAEEGPDLEEPGAGYKKLFSDAQPLQPLQVYQAPLSLATVPHQAL GRTQSSPAAPGGMKSPPDQPVKHLFTTGVVYDTFMLKHQCMCGNT HVVHPEHAGRIQSIWSRLQETGLLSKCEIRGRKATLDEIQTVHSEYHT LLYGTSPLNRRQKLDKSKLLGPISQKMYAVLPCGGIGVDSDTVWNEM HSSSAVRMAVGCLLELAFKVAAGELKNGFAIIRPPGHHAEEESTAMGF

		<p>CFFNSVAITAKLLQQKLNVGKVLIVDWDIHHGNGTQQAFYNDPSVL YISLHRYDNGNFFPGSGAPEEVGGGPGVGYNVNVAWTGGVDPPIGD VEYLTAFRTVVMPIAHEFSPDVVLVSAGFDAVEGHLSPGGYSVTAR CFGHLTRQLMTLAGGRVVLALEGGHDLTAICDASEACVSALLSVEL QPLDEAVLQQKPNINAVATLEKVIEIQSKHWSCVQKFAAGLGRSLRE AQAGETEEAETVSAMALLSVGAEEQAQAAAAREHSPRAEEPMEQEP AL</p>
11 1232	(Hs)DNMT 1-Cas	<p>MPARTAPARVPTLAVPAISLPDDVRRRLKDLERDSLTEKECVKEKLN LLHEFLQTEIKNQLCDLETCLRKEELSEEGYLAKVKSLLNKDLSLEN GAHAYNREVNRLNENQARSEARRVGMADANSPPKPLSKPRTPR RSKSDGEAKPEPSPSPRITRKSTRQTTITSHFAKGPAPKRPQEESEKAK SDESIKEEDKDQDEKRRRVTSRERVARPLPAEPPERAKSGTRTEKEEE RDEKEEKRLRSQTKEPTPKQKLKEEPDREARAGVQADEDEDGDEKD EKKHRSQPKDLAAKRRPEEKEPEKVNQISDEKDEDEKEEKRRKTP KEPTEKKMARAKTVMNSKTHPPKCIQCGQYLDDPLKYGQHPPDAV DEPQMLTNEKLSIFDANESGFESYEALPQHKLTCFSVYCKHGLCPID TGLIEKNIELFFSGSAKPIYDDDDPSLEGGVNGKNLGPINWWITGFDG GEKALIGFSTSFAEYILMDPSPEYAPIFGLMQEKIYISKIVVEFLQSNDS STYEDLINKIETTVPSPGLNLRFTEDSLLRHAQFVVEQVESYDEAGD SDEQPIFLTPCMRDLIKLAGVTLGQRRQAARRQTIRHSTREKDRGPT KATTTKL VYQIFDTFFAEQIEKDREDKENAFKRRRCGVCEVCQQPE CGKCKACKDMVKFGGSGRSKQACQERRCPNMAMKEADDDEEVDD NIPEMPSPKKMHQGGKKKKQKNRISWVGEAVKTDGKKSYYKKVCI DAETLEVGDVSVIPDDSSKPLYLARVTALWEDSSNGQMFHAHWFC AGTDTVLGATSDPLELFLVDECEDMQLSYIHSKVKVYKAPSENWA MEGGMDPESLLEGDDGKTYFYQLWYDQDYARFESPPKTQPTEDNK FKFCVSCARLAEMRQKEIPRVLEQLEDLDSRVLYYSATKNGILYRVG DGVYLPPEAFTFNIKLSPPVKRPRKEPVDEDLYPEHYRKYSYIKGSN LDAPEPYRIGRIKEIFCPKKSNGRPNETDIKIRVNKFYRPENTHKSTPA SYHADINLLYWSDEEA VVDFKAVQGRCTVEYGEDLPECVQVYSMG GPNRFYFLEAYNAKSKSFEDPPNHARSPGNKGKGGKGGKGPKSQA CEPSEPEIEIKL PKLRTLDFVSGGGLSEGFHQAGISDTLWAIEMWDP AAQAFRLNNPGSTVFTEDCNILLKLV MAGETTNSRGQRLPQKGDVE MLCGGPPCQGFSGMNRFNSTYSKFKNLSLVSFLSYCDYYRPRFFLL ENVRNFVSFKRSMVLKLT LRCLVRMGYQCTFGVLQAGQYGVAQTR RRAILAAAPGEKLP LFPEPLHVFAPRACQLSVVDDKKFVSNITRLS SGPFRITITVRDTMSDLPEVRNGASALEISYNGEPQSWFQRQLRGAQY QPILRDHICKDMSALVAARMRHIPLAPGSDWRDL PNIEVRLSDGTMA RKLRYTHHDRKNGRSSSGALRGVCSCVEAGKACDPAARQFNTLIPW CLPHTGNRHNHWAGLYGRLEWDGFFSTTVTNPEPMGKQGRVLHPE QHRVSVSVRECARSQGFPD TYRLF GNILDKHRQVGNAVPPPLAKAIGL EIKLCMLAKARESASAKIKEEEAAKDGGPSSGAPPPSGGSPAGSPTST EEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAP GTSTEPSEPKKKRKVMDDKKYSIGLAIGTNSVGWAVITDEYKVPSKKF KVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRI CYLQEIFSNEMAKVDDSSFFHRLEESFLVEEDKKHERHPIFGNIVDEVA YHEKYPTIYHLRKKLV DSTDKADLR LIYLALAHMIKFRGHFLIEGDL NPDNSDV DKLFIQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRL ENLIAQLPGEKKNGLFGNLIASLGLTPNFKSNFDLAEDA KLQLSKDT YDDDLNLLAQIGDQYADLFLAAKNLSDAILLS DILRVNTEITKAPLS ASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYID GGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPH QIHLGELHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGPLARGNSR FAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKV LPKHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLF</p>

		<p>KTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKII KDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVM KQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNF QLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAICKGILQTVK VVDLVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEEGI KELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLS DYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMK NYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQI TKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYK VREINNYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVR KMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGE TGEIVWDKGRDFATVRKVLSPQVNVKKTEVQTGGFSKESILPKRN SDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKEVEKGSKKLKS KELLGITIMERSSSFENPIDFLEAKGYKEVKKDLIILPKYSLFELENG RKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQK QLFVEQHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIR EQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDATLIHQSI TGLYETRIDLSQLGGDPKKKRKV</p>
111333	(Hs)DNMT 3A-Cas	<p>MPAMPSSGPGDTSSSAAREEDRKDGEEQEEPRGKEERQEPSTTARK VGRPGRKRKHPPVESGDTPKDPAVISKSPSMAQDSGASELLPNGDLE KRSEPQPEEGSPAGGQKGGAPAEGEAETLPEASRAVENGCCTPKE GRGAPAEAGKEQKETNIESMKMEGSRGRLRGGLGWESSLRQRPMPR LTFQAGDPYYISKRRDEWLARWKREAEKKAKVIAGMNAVEENQG PGESQKVEEASPPAVQQPTDPASPTVATTPEPVGSDAGDKNATKAG DDEPEYEDGRGFGIGELVWGKLRGFSWWPGRIVSWWMTGRSRAAE GTRWVMWFGDGKFSVVCVEKLMPLSSFCSAFHQATYNKQPMYRK AIYEVVLQVASSRAGKLPVCHDSDESDTAKAVEVQNKPMIEWALGG FQPSGPKGLEPPEEEKNPYKEVYTDMMWVEPEAAAYAPPPAKKPRK STAEKPKVKEIIDERTRERLVYEVQRQCRNIEDICISCSLNVTLHPL FVGGMCCQNCNCFLECAQQYDDDGYSYCTICCGGREVLMMCGNNN CCRCFCVECVDLLVGPGAAQAAIKEDPWNCYMCCHGKGTGGLRRR EDWPSRLQMFFANNHDQEFDPKVVPPVPAEKRRPIRVLSLFDGIAT GLLVKDLGIQVDRYIASEVCEDESITVGMVRHQGKIMYVGDVRSVT QKHIEWGPFDLVIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLH DARPKEGDDRPFVFLFENVVAMGVSDKRDISRFLSNPVMIDAKEV SAAHRARYFWGNLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVR TITTRSNSIKQGKDQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVS NMSRLARQRLGRSWSVPVIRHLFAPLKEYFACVGGPSSGAPPPSGG SPAGSPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTS TEPSEGSAPGTSTEPSEPKKKRKVMDDKYSIGLAIGTNSVGWAVITD EYKVPSSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARR RYTRRKNRICYLQEIFSNEMAKVDDSFHRLEESFLVEEDKKHERHPI FGNIVDEVAYHEKYPTIYHLRKKLV DSTDKADRLIYLALAHMIKFR GHFLIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILS ARLSKSRRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAED AKLQLSKDQYDDDLNLLAQIGDQYADLFLAAKNLSAAILSDILRV NTEITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPKEYKEIFFDQS KNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQ RTFDNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYY VGPLARGNSRFAMTRKSEETITPWNFEVVDKGASAQSFIERMTN FDKNLPNEKVLPHSLLEYFTVYNELTKVKYVTEGMRKPAFLSGE QKKAIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNAS LGTYHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTY AHLFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSD GFANRNFQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA</p>

		IKKGILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSR ERMKRIEEGIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYV DQELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVP SEEVVKMKKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFI KRQLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVS DFRKDFQFYKVRINNYHHAHDAYLNAVVGTAIIKKYPKLESEFVY GDYKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEI RKRPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTG GFSKESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKV EKGKSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEVKKDLIIK LPKYSLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYE KLKGSPEDEKQQLFVEQHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTST KEVL DATLIHQ SITGL YETRIDLSQLGGDPKKKRKV
111434	(Hs)DNMT 3A(CD)- Cas	MNHDQEFDPKVPVPAEKRPVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLDARPKEGDDRPF FWLFENVVAMGVSDKRDISRFLSNPVMIDAKEVSAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQKG DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSVPVIRHLFAPLKEYFACVGGPSSGAPPPSGGSPAGSPTSTEEGT SESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTST EPSEPKKKRKVMDKKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVL GNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYL QEIFSNEMAKVDDSSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHE KYPTIYHLRKKLV DSTDKADLR LIYLALAHMIKFRGHFLIEGDLNPD NSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLENL IAQLPGEKKNGLFGNLIALLSLGLTPNFKSNFDLAEDAQLSKDQTYD DDLNDLLAQIGDQYADLFLAAKNLSDAILSDILRVNTEITKAPLSAS MIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGG ASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQI HLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYVVGPLARGNSRF AWMTRKSEETITPWNFEVVDKGASAQSFIERMTNFDKNLPNEKVL PKHSLLEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFK TNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIK DKDFLDNEENEDILEDIVLTTLTFEDREMIEERLKYAHLFDDKVMK QLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDFANRNFQMQL IHDDSLTFKEDIQKAQVSGQGDLSLHEHIANLAGSPAIIKKGILQTVKVV DELVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEEGIKE LGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDY DVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKKNY WRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITK HVAQILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVR EINNYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMI AKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGE IVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSGESILPKRNSDK LIARKKDWDPKKYGGFDSPTVAYSVLVVAKVEKGKSKKLKSVKEL LGITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKR MLASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEKQQLF VEQHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHRDKPIREQA ENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGL YETRIDLSQLGGDPKKKRKV
111535	(Hs/Hs)DN MT3A(CD)	MNHDQEFDPKVPVPAEKRPVLSLFDGIATGLLVLKDLGIQV DRYIASEVCEDSITVGMVRHQKIMYVGDVRSVTQKHIQEWGPFDL VIGGSPCNDLSIVNPARKGLYEGTGRLFFEFYRLLDARPKEGDDRPF

	)/L(CD)- Cas	FWLFENVVAMGVSDKRDISRFLESNPVMDAKEVSAAHRARYFWG NLPGMNRPLASTVNDKLELQECLEHGRIAKFSKVRTITTRSNSIKQGK DQHFPVFMNEKEDILWCTEMERVFGFPVHYTDVSNMSRLARQRLLG RSWSVPVIRHLFAPLKEYFACVSSGNSNANSRGPSFSSGLVPLSLRGS HNPLEMFETVPVWRRQPVRVLSLFEDIKKELTSLGFLESGSDPGQLK HVVDVTDTVRKDVEEWGPFDLVYGATPPLGHTCDRPPSWYLFQFH RLLQYARPKPGSPRPFFWMFVDNLVLNKEDLDVASRFLEMEPVITPD VHGGSLLQNAVRVWSNIPAIRSRHWALVSEEELSLLAQNKQSSKLAA KWPTKLVKNCFLPLREYFKYFSTELTSSLGGPSSGAPPPSGGSPAGSP TSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEG SAPGTSTEPSEPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPS KKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRK NRICYLQEIFSNEMAKVDDSFHRLVESFLVEEDKKHERHPIFGNIVD EVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLAALAHMIKFRGHFLIE GDLNPDNSDVDKLFIQLVQTYNQLFEENPINASGVDAKAILSARLSK SRLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQL SKDTYDDDLDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEIT KAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGY AGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFD NGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPL ARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKN LPNEKVLPKHSLLEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKKA IVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT HDLLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKT YAHFLDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKS DGFA NRNFMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSP AIKKGI LQTVKVVDLVKVMGRHKPENIVIEMARENQTTQKGQKNSR ERMK RIEEGIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMY VDQELD INRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDN VPSEEVV KKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAG FIKRLV ETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKS KLVSDFRKD FQFYKVBREINNYHHAHDAYLNAVVGTA LIKYPKLESEFVYGDYKV YDVRKMIKSEQEIGKATAKYFFYS NIMNFFKTEITLANGEIRKRPLI ETNGETGEIVWDKGRDFAT VRKVL SMPQVNIVKKTEVQTGGFSKESI LPKRNSDKLIARKK DWDPKKYGGFDSPTVAYSVLVVAKEVGKSK KLKSVKELLGIT IMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLF ELEN GRKRLASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPE DNEQKQLFVEQHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKH RDKPIREQAENIIHLFTLTNLGAPAAFYFDTTIDR KRYTSTKEVLDA TLIHQ SITGLYETRIDLSQLGGDPKKKRKV
111636	(Hs)DNMT 3B-Cas	MKGDTRHLNGEEDAGGRED SILVNGACSDQSSDSPPILEAIR TPEIRG RRSSRLSKREVSSLLSYTQDLTG DGDGEDGDGSDTP VMPKLFRETR TRSEPAVRTRNNNSVSSRERHRPSRSTRGRQGR NHVDESPVEFPAT RSLRRRATASAGTPWPSPSSYL TIDLTD DTE DTHGTPQSSSTPYARL AQDSQQGGMESPQVEADSGDGS SEYQDGKEFGIGDLVWGKIKGFS WWPAMVVSWKATSKRQAM SGMRWVQWFGDGKFSEVSADKLVAL GLFSQHFNLATFNKLVS YRKAMYHALEKARVRAGKTFPSSPGDSLE DQLKPMLEWAHGG FKPTGIEGLKPNNTQPVVNKSKVRRAGSRKLES RKYENKTRRR TADDSATSDYCPAPKRLKTNCYNNGKDRGDEDQSR EQMASDV ANNKSSLEDGCLSCGRKNPVSFHPLFEGGLCQTCRDRFL ELF YMYDDDGYSYCTVCCGREL LLSNTSCRCFCVECLEVLVG TG TAAEAKLQEPWSCYMLPQRCHGV LRRRKDWNVRLQAFFTS DT GLEYEAPKLYPAIPAARRRPIRVLSLFDGIATGYLVLKELGI KV GK YV ASEVCEESIAVGT VKHEGNIKYVNDVRNITKKNIEE WGPFDLVIGGSP CNDLSNVNPARKGLYEGTGRLFFEFYHLLNYS RPKEGDDRPFFWMF

		<p>ENVVAMKVGDKRDISRFLECNPVMIDAIVSAAHRARYFWGNLPG MNRPVIASKNDKLELQDCLEYNRIAKLKKVQTITTKSNSIKQGKNQL FPVVMNGKEDVWLCTELERIFGFPVHYTDVSNMGRGARQKLLGRS WSVPVIRHLFAPLKDYFACEGGPSSGAPPPSGGSPAGSPTSTEEGTSE SATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEP SEPKKKRKVMDKKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLGN TDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQEI FSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEKY PTIYHLRKKLVDSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNSD VDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRLENLIAQ LPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAQLQSKDQYDDDL DNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMIK RYDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGASQ EEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHLG ELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAWM TRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPHKS LLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNRK VTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDKDF LDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLKR RRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDFANRNFMLIHDD SLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDEL VKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEIEGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKQQLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVREIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIV WDKGRDFATVRKVLSPQVNVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLG ITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLFELNGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDTLHQITGLYE TRIDLSQLGGDPKKKRKV</p>
111737	(Hs)DNMT 3B(CD)- Cas	<p>MIRVLSLFDGIATGYLVKELGIKVGKYVASEVCEESIAVGTVKHEG NIKYVNDVRNITKKNIEEWGPFDLVIGGSPCNDLSNVNPAKGLYEG TGRLFFEFYHLLNYSRPKEGDDRPFFWMFENVVAMKVGDKRDISRF LECNPVMIDAIVSAAHRARYFWGNLPGMNRPVIASKNDKLELQDC LEYNRIAKLKKVQTITTKSNSIKQGKNQLFPVVMNGKEDVWLCTEL ERIFGFPVHYTDVSNMGRGARQKLLGRSWSVPVIRHLFAPLKDYFAC EGGPSSGAPPPSGGSPAGSPTSTEEGTSESATPESGPGTSTEPSEGSAP GSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSEPKKKRKVMDKKYSIGL AIGTNSVGWAVITDEYKVPSKKFKVLGNTDRHSIKKNLIGALLFDSG ETAETRLKRTARRRYTRRKNRICYLQEIFSNEAMAKVDDSFHRLSE SFLVEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLVDSTDKAD LRLIYLALAHMIKFRGHFLIEGDLNPDNSDVKLFQILVQTYNQLFEE NPINASGVDAKAILSARLSKSRLENLIAQLPGEKKNGLFGNLIALSL GLTPNFKSNFDLAEDAQLQSKDQYDDDLNLLAQIGDQYADLFLA AKNLSDAILLSDILRVNTEITKAPLSASMIKRYDEHHQDLTLLKALVR QQLPEKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEKMDGTEE LLVKLNREDLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFYFPLKDN REKIEKILTFRIPYYVGPLARGNSRFAWMTRKSEETITPWNFEEVVDK GASAQSFIERMTNFDKNLPNEKVLPHKSLLYEYFTVYNELTKVKYVT EGMRKPAFLSGEQKKAIVDLLFKTNRKVTVKQLKEDYFKKIECFDSV</p>

		<p>EISGVEDRFNASLGTYHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFE DREMIEERLKTYAHLFDDKVMKQLKRRRYTGWGRLSRKLINGIRDK QSGKTILDFLKSDGFANRNFMLIHDDSLTFKEDIQKAQVSGQGDSL HEHIANLAGSPAIIKKGILQTVKVVDLVKVMGRHKPENIVIAMAREN QTTQKGQKNSRERMKRIIEGKELGSQILKEHPVENTQLQNEKLYLY YLQNGRDMYVDQELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRS DKNRGKSDNVPSEEVVKMKMKNYWRQLLNAKLITQRKFDNLTKAER GGLSELDKAGFIKRQLVETRQITKHVAQILDSRMNTKYDENDKLIRE VKVITLKSCLVSDFRKDFQFYKVREINNYHHAHDAYLNAVVGTAI KKYPKLESEFVYGDYKVYDVRKMIKSEQEIGKATAKYFFYSNIMN FFKTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRKVLSPQV NIVKKTEVQTGGFSKESILPKRNSDKLIARKKDWDPKKYGGFDSPTV AYSVLVVAKEKGKSKKLKSVKELLGITIMERSSSFENPIDFLEAKG YKEVKKDLIIKLPKYSLFELENGRKRMLASAGELQKGNELALPSKYV NFLYLASHYEKLKGSPEDEQKQLFVEQHKHYLDEIIEQISEFSKRVI LADANLKVLSAYNKHDKPIREQAENIIHLFTLTNLGAPAAFKYFD TTIDRKRYTSTKEVLDTLHQITGLYETRIDLSQLGGDPKKKRKV</p>
111838	(Hs/Mm)D NMT3B(C D)/L(CD)- Cas	<p>MIRVLSLFDGIATGYLVKLKELGIKVGKYVASEVCEESIAVGTVKHEG NIKYVNDVRNITKKNIEEWGPFDLVIGGSPCNDLSNVNPARGLYEG TGRLFFEFYHLLNYSRPKEGDDRPFFWMFENVVAMKVGDKRDISRF LECNPMIDAIVSAHRARYFWGNLPGMNRPVIAKNDKLELQDC LEYNRIAKLKKVQTITTTKSNISIKQGNQLFPVVMNGKEDVLWCTEL ERIFGFPVHYTDVSNMGRGARQKLLGRSWSVPVIRHLFAPLKDYFAC ESSGNSNANSRGPSSFSSGLVPLSLRGSHMGPMIYKTVSAWKRPVR VLSLFRNIDKVLKSLGFLESGSGSGGGTLKYVEDVTNVVRRDVEKW GPFDLVYGSTQPLGSSCDRCPGWYMFQFHRILQYALPRQESQRPFFW IFMDNLLLTEDDQETTTTRFLQTEAVTLQDVRGRDYQNAMRVWSNIP GLKSKHAPLTPKEEEYLQAQVRSRSLDAPKVDLLVKNCLLPLREYF KYFSQNSLPLGGPSSGAPPPSGGSPAGSPTSTEEGTSESATPESGPGTS TEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSEPKKKRKM DKKYSIGLAIGTNSVGWAVITDEYKVPSSKKFKVLGNTDRHSIKKLI GALLFDSGETAEATRLKRTARRRYTRRKNRICYLQEIFSNEMAKVDD SFFHRLEESFLVEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLV DSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNSDVKLFIQLVQ TYNQLFEEENPINASGVDAKAILSARLSKSRLENLIAQLPGEKKNGLF GNLIALSLGLTPNFKSNFDLAEDAKLQLSKDITYDDDLNLLAQIGDQ YADLFLAAKNLSAAILSDILRVNTEITKAPLSASMIKRYDEHHQDLT LLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILE KMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHLGELHAILRRQED FYPFLKDNREKIEKILTRIPYYVGPLARGNSRFAWMTRKSEETITPW NFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPHSLLYEYFTVYNE LTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNRKVTVKQLKEDYF KKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKDFLDNEENEDILED IVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLKRRRYTGWGRLSR KLINGIRDKQSGKTILDFLKSDGFANRNFMLIHDDSLTFKEDIQKAQ VSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDLVKVMGRHKPENI VIAMARENQTTQKGQKNSRERMKRIIEGKELGSQILKEHPVENTQL QNEKLYLYYLQNGRDMYVDQELDINRLSDYDVDAIVPQSFLKDDSI DNKVLTRSDKNRGKSDNVPSEEVVKMKMKNYWRQLLNAKLITQRK FDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVAQILDSRMNTKYD ENDKLIREVKVITLKSCLVSDFRKDFQFYKVREINNYHHAHDAYLNA VVGTAIKKYPKLESEFVYGDYKVYDVRKMIKSEQEIGKATAKYF FYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRK VLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLIARKKDWDPKKY GGFDSPTVAYSVLVVAKEKGKSKKLKSVKELLGITIMERSSSFENPI</p>

		DFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRMLASAGELQKGNEL ALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVEQHKHYLDEIIEQIS EFSKRVLADANLDKVL SAYNKH RD KPIREQAENIIHLFTLTNLGAPA AFKYFDTTIDRKRYTSTKEVLDATLIHQ SITGLYETRIDLSQLGGDPK KKRKV
11 ¹⁹³⁹	(Hs)DNMT 3-Cas	MAAIPALDPEAEPSMDVILVGSSELSSSVSPGTGRDLIAYEVKANQRN IEDICICCGSLQVHTQHPLFEGGICAPCKDKFLDALFLYDDDDGYQSYC SICCSGETLLICGNPDCTRCYCFECVDSL VGPGTSGKVHAMS NWVCY LCLPSSRSGLLQRRRKWRSQ LKAFYDRESENPLEMFETVPVWRRQP VRVLSLFEDIKKELTSLGFLESGSDPGQLKHVV DVTDTVRKDVEEW GPFDLVYGATPPLGHTCDRPPSWYLFQFHRL LQYARPKPGSPRPFFW MFVDNLVLNKEDLDVASRFLEMEPV TIPDVHGGSLQNAV RVWSNIP AIRSSRH WALVSEEELSLLAQNKQSSKLA AKWPTKL VKNCFPLPREY FKYFSTELTSSLGGPSSGAPPPSGGSPAGSPTSTEEGTSESATPESGPGT STEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSEPKKKRKV MDKKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLGNTDRHSIKKN LIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQEIFS NEMAKV DDSFFHRLEESFLVEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKK LVDSTDKADRLIYLALAHMIKFRGHFLIEGDLNPDNSD VDKLFIQL VQTYNQLFEENPINASGVDAKAILSARLSKSRREN LIAQLPGEKKN GLFGNLIALSLGLTPNFKS NFDLAEDAKLQLSKDTYDDDLNLLAQI GDQYADLFLAAKNLSDAILSDILRVNTEITKAPLSASMIKRYDEHH QDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGASQEEFYKFI KPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHLGELHAILR RQEDFYFPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAWMTRKSEET ITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVL PKHSLLYEYFT VYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNRKVTVKQLK EDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKDFLDNEENE DILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLKRRRYTGW GRLSRKLINGIRDKQSGKTILDFLKS DGFANRNFMQLIHDDSLTFKED IQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKVVD ELVKVMGR HKPENIVIEMARENQTTQKGQKNSRERMKRIE EGikelGSQILKEHPV ENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVDAIVPQSFL KDDSIDNKVLTRSDKNRGKSDNPSEEVVKKMKNYWRQLLNAKLI TQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVAQILDSRM NTKYDENDKLIREVKVITLKS KLVSDFRKDFQFYKVREINNYHHAHD AYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIAKSEQEIGKA TAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIVWDKGRDF ATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDKLIARKKDW DPKKYGGFDSPTVAYSVLVVAKVEKGKSKKLKSVKELLGITIMERS FEKNPIDFLEAKGYKEVKKDLIIKLPKYSLFELENGRKRMLASAGEL QKGNELALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVEQHKHYL DEIIEQISEFSKRVLADANLDKVL SAYNKH RD KPIREQAENIIHLFTLT NLGAPAAFKYFDTTIDRKRYTSTKEVLDATLIHQ SITGLYETRIDLSQL GGDPK KKKRKV
11 ²⁰⁴⁹	(Mm)DNM T3L-Cas	MGSRETPSSCSKTLETLDLETSDSSSPDADSPLEE QWLKSSPALKEDS VDVVLEDCKEPLSPSSPPTGREMIRYEVKVNRRSIEDICLCGTLQVY TRHPLFEGGLCAPCKDKFLESFLYDDDDGHQSYCTICCSGGTLFICES PDCTRCYCFECVDILVGPGT SERINAMACWVCFLCLPFSRSGLLQRR KRWRHQLKAFHDQEGAGPMEIYKTVSAWK RQPVRVLSLFRNIDKV LKSLGFLESGSGSGGGTLKYVEDVTNVVRRDVEK WGPFDLVYGSTQ PLGSSCDRCPGWYMFQFHRLQYALPRQESQRPF FWFMDNLLLTED DQETTTRFLQTEAVTLQDVRGRDYQ NAMRVWSNIPGLKSKHAPLTP KEEEYLQAQVRSRSLDAPKVDLLVKNCLLPLREYFKYFSQNSLPLG GPSSGAPPPSGGSPAGSPTSTEEGTSESATPESGPGTSTEPSEGSAPGSP

		AGSPTSTEEGTSTEPSEGSAPGTSTEPSEPKKKKRKVMDKKYSIGLAIG TNSVGWAVITDEYKVPSKKFKVLGNTDRHSIKKNLIGALLFDSGETA EATRLKRTARRRYTRRKNRICYLQEIFSNEMAKVDDSSFFHRLEESFL VEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLVDSTDKADLRL IYLALAHMIKFRGHFLIEGDLNPDNSDVKLFIQLVQTYNQLFEENPI NASGVDAKAILSARLSKSRRLLENLIAQLPGEKKNGLFGNLIASLGLT PNFKSNFDLAEDAQLQLSKDTYDDDLNLLAQIGDQYADFLAAKN LSDAILLSDILRVNTEITKAPLSASMIKRYDEHHQDLTLLKALVRQQ PEKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLV KLNREDLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFYFPLKDNREK IEKILTRIPYYVGPLARGNSRFAWMTRKSEETITPWNFEEVVDKGAS AQSFIERMTNFDKNLPNEKVLPKHSLLYEYFTVYNELTKVKYVTEG MRKPAFLSGEQKKAIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEI SGVEDRFNASLGTYHDLKIIKDKDFLDNEENEDILEDIVLTLTLFED REMIEERLKTYAHLFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQ SGKTILDFLKSDFANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLH EHIANLAGSPAIIKGIQLQTVKVVDLVKVMGRHKPENIVIMARENQ TTQKGQKNSRERMKRIIEGKELGSQILKEHPVENTQLQNEKLYLYY LQNGRDMYVDQELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSD KNRGKSDNVPSEEVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERG GLSELDKAGFIKRQLVETRQITKHVAQILDSRMNTKYDENDKLIREV KVITLKSKLVSDFRKDFQFYKVINNYHHAHDAYLNAVVG TALIK KYPKLESEFVYGDYKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFF KTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNI VKKTEVQTGGFSKESILPKRNSDKLIARKKDWDPKKYGGFDSPTVA YSVLVVAKEKKGSKKLKSVKELLGITIMERSSEKPNIDFLEAKGY KEVKDLIIKLPKYSLFELENGRKRMLASAGELQKGNELALPSKYVN FLYLASHYEKLKGSPEDEQKQLFVEQHKHYLDEIEQISEFSKRVL ADANLDKVL SAYNKHDKPIREQAENIIHLFTLTNLGAPAAFKYFDT TIDRKRYTSTKEVLDTLHQSITGLYETRIDLSQLGGDPKKKRKV
112141	(Mm)DNM T3C-Cas	MRGGSRHLSNEEDVSGCEDCIIISGTCSDQSSDPKTVPLTQVLEAVCT VENRGCRTSSQPSKRKASSLISYVQDLTG DGDEDRDGEVGGSSSGST PVMPQLFCETRIPSKTPAPLSWQANTSASTPWLSPASPYPIDLTDEDV IPQSISTPSVDWSQDSHQEGMDTTQVDAESRDGGNIEYQVSADKLLL SQSCILAAFYKLVPIRESIYRTLEKARVRAGKACPSPPGESLEDQLKP MLEWAHGGFKPTGIEGLKPNKKQPENKSRRRTTNDPAASESSPPKRL KTNSYGGKDRGEDEESREQMASDVTNNKGNLEDHCLSCGRKDPVS FHPLFEGGLCQSCRDRFLELFYMYDEDGYQSYCTVCCEGRELLCSN TSCCRCFCVECLEVLVGAGTAEDVKLQEPWSCYMCLPQRCHGVLR RKDWNMRLQDFFTTDPDLEEFEPKLYPAIPAAKRRPIRVLSLFDGIA TGYLVLKELGIKVEKYIASEVCAESIAVGTVKHEGQIKYVDDIRNITK EHIDEWGPFDLVIGGSPCNLSCVNPVRKGLFEGTGRLFFEFYRLN YSCPEEEDDRPFFWMFENVVAMEVGDKRDISRFLECNPVMIDAIVS AAHRARYFWGNLPGMNRPMASKNDKLELQDCLEFSRTAKLKKVQ TITTKSNSIRQGNQLFPVVMNGKDDVLWCTELERIFGFPEHYTDVS NMGRGARQKLLGRSWSVPVIRHLFAPLKDHFACEGGPSSGAPPPSG GSPAGSPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGT STEPSEGSAPGTSTEPSEPKKKKRKVMDKKYSIGLAIGTNSVGWAVITD EYKVPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARR RYTRRKNRICYLQEIFSNEMAKVDDSSFFHRLEESFLVEEDKKHERHPI FGNIVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFR GHFLIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILS ARLSKSRRLLENLIAQLPGEKKNGLFGNLIASLGLTPNFKNFDLAED AKLQLSKDTYDDDLNLLAQIGDQYADFLAAKNLSDAILLSDILRV NTEITKAPLSASMIKRYDEHHQDLTLLKALVRQQPEKYKEIFFDQS

		<p>KNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQ RTFDNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTFRIPYY VGPLARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTN FDKNLPNEKVLPHKSLLEYEFTVYNELTKVKYVTEGMRKPAFLSGE QKKAIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNAS LGTYHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKT AHLFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKS DGFANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSR ERMKRIEIEGKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYV DQELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVP SEEVVKMKKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFI KRQLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVS DFRKDFQFYKVRINNYHHAHDAYLNAVVGTAIIKKYPKLESEFVY GDYKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEI RKRPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTG GFSKESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKV EKGKSKKLKSVKELLGITIMERSSSFENPIDFLEAKGYKEVKKDLIIK LPKYSLELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYE KLKGSPEDEQKQLFVEQHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTST KEVLDTLIHQITGLYETRIDLSQLGGDPKKKRKV</p>
112242	(Mm)DNM T3C(CD)- Cas	<p>MIRVLSLFDGIATGYLVKELGIKVEKYIASEVCAESIAVGTVKHEGQ IKYVDDIRNITKEHIDEWGPFDLVIGGSPCNDLSCVNPVRKGLFEGTG RLFFEFYRLNYSCEEEEDDRPFFWMFENVVAMEVGDKRDISRFLEC NPVMIDAIKVSAAHRARYFWGNLPGMNRPMASKNDKLELQDCLE FSRTAKLKKVQTITTKSNSIRQGKNQLFPVVMNGKDDVLWCTELERI FGFPEHYTDVSNMGRGARQKLLGRSWSVPVIRHLFAPLKDHFACEG GPSSGAPPPSGGSPAGSPTSTEEGTSESATPESGPGTSTEPSEGSAPGSP AGSPTSTEEGTSTEPSEGSAPGTSTEPSEPKKKRKVMDDKYSIGLAIG TNSVGWAVITDEYKVPSSKFKVLGNTDRHSIKKNLIGALLFDSGETA EATRLKRTARRRYTRRKNRICYLQEIFSNEMAKVDDDSFFHRLEESFL VEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLVDSTDKADLRL IYLALAHMIKFRGHFLIEGDLNPDNSDVKLFIQLVQTYNQLFEENPI NASGVDAKAILSARLSKSRRLENLIAQLPGEKKNGLFGNLIALSLGLT PNFKSNFDLAEDAKLQLSKDITYDDDLNLLAQIGDQYADLFLAAKN LSDAILSDILRVNTEITKAPLSASMIKRYDEHHQDLTLLKALVRQQ PEKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLV KLNREDLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFYFPLKDNREK IEKILTFRIPYYVGPLARGNSRFAWMTRKSEETITPWNFEEVVDKGAS AQSFIERMTNFDKNLPNEKVLPHKSLLEYEFTVYNELTKVKYVTEG MRKPAFLSGEQKKAIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEI SGVEDRFNASLGTYHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFED REMIEERLKTIAHLFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQ SGKTILDFLKS DGFANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLH EHIANLAGSPA IKGILQTVKVVDELVKVMGRHKPENIVIAMARENQ TTQKGQKNSRERMKRIEIEGKELGSQILKEHPVENTQLQNEKLYLYY LQNGRDMYVDQELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSD KNRGKSDNVPSEEVVKMKKNYWRQLLNAKLITQRKFDNLTKAERG GLSELDKAGFIKRQLVETRQITKHVAQILDSRMNTKYDENDKLIREV KVITLKSCLVSDFRKDFQFYKVRINNYHHAHDAYLNAVVGTAIIK KYPKLESEFVYGDYKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFF KTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRKVL SMPQVN VKKTEVQTGGFSKESILPKRNSDKLIARKKDWDPKKYGGFDSPTVA YSVLVVAKVEKGKSKKLKSVKELLGITIMERSSSFENPIDFLEAKGY</p>

		KEVKKDLIIKLPKYSLFELENGRRKMLASAGELQKGNELALPSKYVN FLYLASHYEKLKGSPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVIL ADANLDKVL SAYNKH RDKPIREQAENIIHLFTLTNLGAPAAFKYFDT TIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKKRKV
11 2343	(Mm/Mm) DNMT3C(CD)/L(CD) -Cas	MIRVLSLFDGIATGYLVLKELGIKVEKYIASEVCAESIAVGTVKHEGQ IKYVDDIRNITKEHIDEWGPFDLVIGGSPCNDLSCVNPVRKGLFEGTG RLFFEFYRLLNYSCEEEDDRPFWMFENVVAMEVGDKRDISRFLEC NPVMIDAIKVSAAHRARYFWGNLPGMNRPMASKNDKLELQDCLE FSRTAKLKKVQTITTTKSNSIRQGKNQLFPVVMNGKDDVLWCTELERI FGFPEHYTDVSNMGRGARQKLLGRSWSVPVIRHLFAPLKDHFACESS GNSNANSRGPSSFSSGLVPLSLRGS HMGPM EYKTVSAWKRPVRVLS LFRNIDKVLKSLGFLESGSGSGGGTLKYVEDVTNVVRRDVEKWGPF DLVYGSTQPLGSSCDRCPGWYMFQFHRILQYALPRQESQRPFFWIFM DNLLLTEDDQETTTRFLQTEAVTLQDVRGRDYQNAMRVWSNIPGLK SKHAPLTPKEEEYLQAQVRSRSLDAPKVDLLVKNCLLPLREYFKYF SQNSLPLGGPSSGAPPPSGGSPAGSPTSTEEGTSESATPESGPGTSTEPS EGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSEPKKKRKMMDKK YSIGLAIGTNSVGWAVITDEYKVP SKKFKVLGNTDRHSIKKNLIGALL FDSGETAEATRLKRTARRRYTRRKNRICYLQEIFS NEMAKVDDSFH RLEESFLVEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLVDSTD KADLR LIY LALAHMIKFRGHFLIEGDLNPDNSDV DKLFIQLVQTYNQ LFEENPINASGVDAKAILSARLSKSRLENLIAQLPGEKKNGLFGNLI ALSLGLTPNFKS NFDLAEDAKLQLSKDTYDDDLNLLAQIGDQYAD LFLAAKNLSDAILLSDILRVNTEITKAPLSASMIKRYDEHHQDLTLLK ALVRQQLP EKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEKM DGTEELLVKLNREDLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFYF FLKDNREKIEKILTFRIPYYVGPLARGNSRFAWMTRKSEETITPWNFE EVVDKGASAQSFIERMTNFDKNLPNEKVLPKHSLLYEYFTVYNELTK VKYVTEGMRKPAFLSGEQKKAIVDLLFKTNRKVTVKQLKEDYFKKI ECFDSVEISGVEDRFNASLGTYHDLLKIIKDKDFLDNEENEDILEDIVL TLTLFEDREMIEERLKTYAHLFDDKVMKQLKRRRYTGWGRLSRKLI NGIRDKQSGKTILDFLKSDGFANRNFQMQLIHDDSLTFKEDIQKAQVS GQGDSLHEHIANLAGSPA IKKGILQTVKVVDLVKVMGRHKPENIVI EMARENQTTQKGQKNSRERMKRIEEGIKELGSQILKEHPVENTQLQN EKL YLYYLQNGRDMYVDQELDINRLSDYDVDAIVPQSFLKDDSIDN KVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQLLNAKLITQRKFDN LTKAERGGLSELDAKAGFIKRQLVETRQITKHVAQILDSRMNTKYDEN DKLIREVKVITL KSKLVSDFRKDFQFYK VREINNYHHAHDAYLNAV VGTALIKKYPKLESEFVYGDYKVYDV RKMI AKSEQEIGKATAKYFF YSNIMNFFKTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRKV LSMPQVNIVKKTEVQTGGFSKESILPKRNSDKLIARKKDWDPKKYG GFDSPTVAYSVLVVAKVEKGKSKKLKSVKELLGITIMERS SFEKNPID FLEAKGYKEVKKDLIIKLPKYSLFELENGRRKMLASAGELQKGNELA LPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVEQHKHYLDEIIEQISE FSKRVILADANLDKVL SAYNKH RDKPIREQAENIIHLFTLTNLGAPAA FKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKK KRKV
11 2444	(Mp)M.Mp eI-Cas	MNSNKDKIKVIKVFEAFAGIGSQFKALKNIARSKNWEIQHSGMVEW FVDAIVSYVAIHSKNFNPNKIEQLDKDILSISNDSKMPISEYGIKKINNTI KASYLNYAKKHFNFLDIKKVNKD NFPKNIDIFTYSFPCQDL SVQGL QKGIDKELNTRSGLLWEIERILEEIKNSFSKEEMP KYLLMENVKNLLS HKNNKNYNTWLKQLEKFGYKSKTYLLNSKNFDNCQNRERVFCLSIR DDYLEKTGFKFKELEKVKNP PKKIKDILVDSSNYKYLNLNKYETTTF RETKSNIISRSLKNYTTFNSEN YVYNINGIGPTLTASGANSRIKIETQQ GVRYLTPLECFKYMQFDVND FKKVQSTNLISENKMIIYIAGNSIPVKIL

		<p>EAIFNTLEFVNNEEGGPSSGAPPPSGGSPAGSPTSTEEGTSESATPESG PGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSEPKKK RKVMDKKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLGNTDRHSI KKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQEIFSNE MAKVDDSFHRLVESFLVEEDKKHERHPIFGNIVDEVAYHEKYPTIYHL RKKLVDSTDKADRLIYLALAHMIKFRGHFLIEGDLNPDNSDVKLFI IQLVQTYNQLFEENPINASGVDAKAILSARLSKSRLENLIAQLPGEK KNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDXYDDDLNLLA QIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMIKRYDEH HQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGASQEEFYKF IKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHLGELHAIL RRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAWMTRKSEE TITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKHSLLEYEYF TVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNRKVTVKQL KEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKDFLDNEEN EDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLKRRRYTGW GRLSRKLINGIRDKQSGKTILDFLKSDFANRNFMLIHDDSLTFKED IQKAQVSGQGDSLHEHIANLAGSPAIIKGILQTVKVVDLKVVMGR HKPENIVIAMARENQTTQKGQKNSRERMKRIIEGKELGSQILKEHPV ENTQLQNEKLYLYLQNGRDMYVDQELDINRLSDYDVDAIVPQSFL KDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQLLNKLI TQRKFDNLTKAERGGLSELDKAGFIKQQLVETRQITKHVAQILD SRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVRINNYHHAHD AYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMIKSEQEIGKA TAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIVWDKGRDF ATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLIARKKDW DPKKYGGFDSPTVAYSVLVVAKEKVKSKKLKSVKELLGITIMERSS FEKNPIDFLEAKGYKEVKKDLIIKLPKYSLELENGRKRMLASAGEL QKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVEQHKHYL DEIIEQISEFSKRVILADANLDKVL SAYNKHDKPIREQAENIIHLFTLT NLGAPAAFKYFDTTIDRKRYTSTKEVLDTLIHQSTGLYETRIDL SLGGDPKKKKRV</p>
112545	(Sm)M.Sss I-Cas	<p>MSKVENKTKKLRVFEAFAGIGAQRKALEKVRKDEYEIVGLAEWYVP AIVMYQAIHNNFHTKLEYKSVSREEMIDYLENKTLSWNSKNPVSNG YWKRRKKDDELKIIYNAIKLSEKEGNIFDIRDLYKRTLKNIDLLTYSFP CQDLSQQGIQKGMKRGSGTRSGLLWEIERALDSTEKNDLPKYLME NVGALLHKKNEEELNQWKQKLESLGYQNSIEVLNAADFGSSQARRR VFMISTLNEFVELPKGDKPKSIKKVLNKIVSEKDILNNLLKYNLTFE KKTNSINKASLIGYSKFNSEGYVYDPEFTGPTLTASGANSRIKIKDG SNIRKMNSDETFLYIGFDSQDGKRVNEIEFLTENQKIFVCGNSISVEVL EAIIDKIGGGGPSSGAPPPSGGSPAGSPTSTEEGTSESATPESGPGTSTE PSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSEPKKKRKVMD KKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLGNTDRHSIKKNLIG ALLFDSGETAEATRLKRTARRRYTRRKNRICYLQEIFSNEMAKVDD SFHRLVESFLVEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLVD STDKADRLIYLALAHMIKFRGHFLIEGDLNPDNSDVKLFIQLVQT YNQLFEENPINASGVDAKAILSARLSKSRLENLIAQLPGEKKNGLFG NLIALSLGLTPNFKSNFDLAEDAKLQLSKDXYDDDLNLLAQIGDQY ADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMIKRYDEHHQDLTL LKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEK MDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHLGELHAILRRQEDF YPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAWMTRKSEETITPWN FEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKHSLLEYEYFTVYNEL TKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNRKVTVKQLKEDYFK KIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKDFLDNEENEDILEDI</p>

		<p> VLTLTLFEDREMIEERLKYAHLFDDKVMKQLKRRRYTGWGRLSRK LINGIRDKQSGKTILDFLKSDGFANRNFMLIHDDSLTFKEDIQKAQV SGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDELVKVMGRHKPENIV IEMARENQTTQKGQKNSRERMKRIEEGIKELGSQILKEHPVENTQLQ NEKLYLYYLQNGRDMYVDQELDINRLSDYDVDAIVPQSFLKDDSID NKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQLLNAKLITQRKFD NLTKAERGGLSELDKAGFIKRQLVETRQITKHVAQILDSRMNTKYDE NDKLIREVKVITLKSCLVSDFRKDFQFYKVREINNYHHAHDAYLNA VVGTAIIKKYPKLESEFVYGDYKVYDVRKMIKSEQEIGKATAKYF FYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRK VLSMPQVNIVKKTEVQTGGFSKESILPKRNSDKLIARKKDWDPPKY GGFDSPVAYSVLVVAKEVEKGSKKLKSVKELGITIMERSSSFENPI DFLEAKGYKEVKKDLIIKLPKYSLEFENGRKRMLASAGELQKGNEL ALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVEQHKHYLDEIEQIS EFSKRVLADANLDKVL SAYNKHRRDKPIREQAENIIHLFTLTNLGAPA AFKYFDTTIDRKRYTSTKEVLDATLIHQSI TGLYETRIDLSQLGGDPK KKRKV </p>
112646	(Hp)M.Hpa II-Cas	<p> MKDVLDDNLLLEPAAQYSLFEPESNPNLREKFTFIDLFAGIGGFRIAM QNLGGKCIFSSSEWDEQAQKTYEANFGDLPYGDITLEETKAFIPEKFDI LCAGFPCQAFSIAGKRGGFEDTRGTLFFDVAEIIRRHQPKAFFLENVK GLKNHDKGRTLKTILNVLREDLGYFVPEPAIVNAKNFGVPQNRERIY IVGFHKSTGVNSFSYPEPLDKIVTFADIREEKTVP TKYYLSTQYIDTLR KHKERHESKGNFGYEIIPDDGIANAI VVGGMGRERNLVIDHRITDFT PTTNIKGEVNREGIRKMTPREWARLQGFPSYVIPVSDASAYKQFGN SVAVPAIQATGKKILEKLG NLYDGGPSSGAPPPSGGSPAGSPTSTEEG TSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTS TEPSEPKKKRKVMDDKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVL GNTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYL QEIFSNEMAKVDDSSFFHRLEESFLVEEDKKHERHPIFGNIVDEVAYHE KYPTIYHLRKKLV DSTDKADLR LIYLA LAHMIKFRGHFLIEGDLNPD NSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRLENL IAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDAEDAKLQLSKD TYD DDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSAS MIKRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGG ASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQI HLGELHAILRRQEDFY PFLKDNREKIEKILTFRIPYVVGPLARGNSRF AWMTRKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVL PKHSLLEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFK TNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGT YHDLKIIK DKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMK QLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFML IHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVV DELVKVMGRHKPENIVIEMARENQTTQKGQKNSRERMKRIEEGIKE LGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDY DVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNY WRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITK HVAQILDSRMNTKYDE NDKLIREVKVITLKSCLVSDFRKDFQFYKVR EINNYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVYDVRKMI AKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKRPLIETNGETGE IVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDK LIARKKDWDPPKYGGFDSPVAYSVLVVAKEVEKGSKKLKSVKEL LGITIMERSSSFENPIDFLEAKGYKEVKKDLIIKLPKYSLEFENGRKR MLASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLF VEQHKHYLDEIEQISEFSKRVLADANLDKVL SAYNKHRRDKPIREQA </p>

		ENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVLDATLIHQ SITGL YETRIDLSQLGGDPKKRKV
11 27 47	(Al)M.AluI -Cas	MSKANAKYSFVDLFAGIGGFHAALAATGGVCEYAVEIDREAAVYE RNWNKPALGDITDDANDEGVTLRGYDGPIDVLTGGFPCQPFSKSGA QHGMATRGTFLWNIARIIEEREPTVLILENVRNLVGPRHRHEWLTI ETLRFFGYEVSGAPAI FSPHLLPAWMGGTPQVRERVFITATLVPERM RDERIPRTETGEIDAEAIGPKPVATMNDRFPIKKGTEL FHPGDRKSG WNLLTSGIIREGDPEPSNVDLRLTETETLWIDAWDDLESTIRRATGRP LEGFPYWADSWTDFRELSRLVVIRGFQAPEREVVGDRKRYVARTDM PEGFVPASVTRPAIDETLPAWKQSHLRRNYDFFERHFAEVVAWAYR WGVYTDLPASRRKLEWQAQDAPRLWDTVMHFRPSGIRAKRPTYL PALVAITQTSIVGPLERRRLSPRETARLQGLPEWFD FGEQRAAATYKQ MGNGVNVGVVRHILREHVRRDRALLKLTPAGQRIINAVLADEPDAT VGALGAAEGGPSSGAPPPSGGSPAGSPTSTEEGTSESATPESGPGTST EPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSEPKKRKVM DKKYSIGLAIGTNSVGWAVITDEYKVP SKKFKVLGNTDRHSIKKNLI GALLFDSGETAEATRLKRTARRRYTRRKNRICYLQEIFS NEMAKVDD SFFHRLEESFLVEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLV DSTDKADLRLIYLALAHMIKFRGHFLIEGDLNPDNSDVKLFIQLVQ TYNQLFEENPINASGVDAKAILSARLSKSRLENLIAQLPGEKKNGLF GNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDDLNLLAQIGDQ YADFLAAKNLSAAILSDILRVNTEITKAPLSASMIKRYDEHHQDLT LLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILE KMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHLGELHAILRRQED FYPFLKDNREKIEKILTFRIPYYVGPLARGNSRFAWMTRKSEETITPW NFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKHSLLYEYFTVYNE LTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNRKVTVKQLKEDYF KKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKDFLDNEENEDILED IVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLKRRRYTGWGRLSR KLINGIRDKQSGKTILDFLKSDGFANRNFMQLIHDDSLTFKEDIQKAQ VSGQDSLHEHIANLAGSPAIIKKGILQTVKVVDLVKVMGRHKPENI VIEMARENQTTQKGQKNSRERMKRIEEGIKELGSQILKEHPVENTQL QNEKLYLYYLQNGRDMYVDQELDINRLSDYDVDAIVPQSFLKDDSI DNKVLTRSDKNRGKSDNVPSEEVVKMKKNYWRQLLNAKLITQRKF DNLTKAERGGLSELDKAGFIKRQLVETRQITKHVAQILDSRMNTKYD ENDKLIREVKVITLKS KLVSDFRKDFQFYK VREINNYHHAHDAYLNA VVG TALIKKYPKLESEFVYG DYKVYDVRKMIAKSEQEIGKATAKYF FYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRK VLSMPQVNIVKKTEVQTGGFSKESILPKRNSDKLIARKKDWDPKKY GGFDSPTVAYSVLVAKVEKGKSKKLKSVKELLGITIMERS SFEKNPI DFLEAKGYKEVKKDLIIKLPKYSLFEL ENGRKRMLASAGELQKGNEL ALPSKYVNFLYLASHYEKLKGSPEDNEQKQLFVEQH KHYLDEIIEQIS EFSKRVLADANLDKVL SAYNKH RDKPIREQAENIIHLFTLTNLGAPA AFKYFDTTIDRKRYTSTKEVLDATLIHQ SITGLYETRIDLSQLGGDPK KKRKV
11 28 48	(Al)M.AluI -del82-Cas	MSKANAKYSFVDLFAGIGGFHAALAATGGVCEYAVEIDREAAVYE RNWNKPALGDITDDANDEGVTLRGYDGPIDVLTGGFPCQPFSKSGA QHGMATRGTFLWNIARIIEEREPTVLILENVRNLVGPRHRHEWLTI ETLRFFGYEVSGAPAI FSPHLLPAWMGGTPQVRERVFITATLVPERM RDERSTIRRATGRPLEGFPYWADSWTDFRELSRLVVIRGFQAPEREV VGDRKRYVARTDMPEGFVPASVTRPAIDETLPAWKQSHLRRNYDFF ERHFAEVVAWAYRWGVYTDLPASRRKLEWQAQDAPRLWDTVMH FRPSGIRAKRPTYLPALVAITQTSIVGPLERRRLSPRETARLQGLPEWFD FGEQRAAATYKQMGNGVNVGVVRHILREHVRRDRALLKLTPAGQR IINAVLADEPDATVGALGAAEGGPSSGAPPPSGGSPAGSPTSTEEGTS

		<p>ESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTE PSEPKKKRKVMDDKKYSIGLAIGTNSVGWAVITDEYKVPSSKKFKVLG NTDRHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQ EIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEK YPTIYHLRKKLVDSTDKADLRILIYLAHMIKFRGHFLIEGDLNPDNS DVDKLFQILVQTYNQLFEENPINASGVDAKAILSARLSKSRRLLENLIA QLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAEDAKLQLSKDTYDDD LDNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKAPLSASMI KRYDEHHQDLTLLKALVRQQLEPKYKEIFFDQSKNGYAGYIDGGAS QEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHL GELHAILRRQEDFYFPLKDNREKIEKILTFRIPYYVGPLARGNSRFAW MTRKSEETITPWNFEVVDKKGASAQSFIERMTNFDKNLPNEKVLPHK SLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDKD FLDNEENEDILEDIVLTLTLFEDREMIEERLKYAHLFDDKVMKQLK RRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDFANRNFQMQLIHD DSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPAIIKKGILQTVKVVDE LVKVMGRHKPENIVIEARENQTTQKGQKNSRERMKRIEELGKELGS QILKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVD AIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKMKKNYWRQ LLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRLVETRQITKHVA QILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVIN NYHHAHDAYLNAVVGTAIIKKYPKLESEFVYGDYKVDVVRKMIK SEQEIGKATAKYFFYSNIMNFFKTEITLANGEIRKPLIETNGETGEIV WDKGRDFATVRKVLSPQVNIVKKTEVQTGGFSKESILPKRNSDKLI ARKKDWDPPKKYGGFDSPTVAYSVLVVAKEKKGSKKLKSVKELLG ITIMERSSEFKNPIDFLEAKGYKEVKKDLIIKLPKYSLELENGRKRML ASAGELQKGNELALPSKYVNFLYLASHYEKLKGSPEDEQKQLFVE QHKHYLDEIIEQISEFSKRVLADANLDKVL SAYNKHDKPIREQAEN IIHLFTLTNLGAPAAFYFDTTIDRKRYTSTKEVLDTLIHQSTGLYE TRIDLSQLGGDPKKKRKV</p>
112949	(Ha)M.Hae III-Cas	<p>MNLISLFSGAGGLDLGFQKAGFRIICANEYDKSIWKTYESNHSALIK GDISKISSDEFKCDGIIGPPCQSWSEGGSLRGIDDPKGLFYEYIRIL KQKKPIFFLAENVKGMMAQRHNKAVQEFIQEFDNAGYDVHILLNA NDYGVAQDRKRVFYIGFRKELNINYLPPPHLIKPTFKDVIWDLKDNP IPALDKNKTNGNKCIPNHEYFIGSYSTIFMSRNRVRQWNEPAFTVQ ASGRQCQLHPQAPVMLKVSKNLNKFVEGKEHLYRRLTVRECARVQ GFPDDFIHYESLNDGYKMIGNAVPVNLA YEIAKTIKSALEICKNGG PSSGAPPPSGGSPAGSPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPA GSPTSTEEGTSTEPSEGSAPGTSTEPSEPKKKRKVMDDKKYSIGLAIGT NSVGWAVITDEYKVPSSKKFKVLGNTDRHSIKKNLIGALLFDSGETAE ATRLKRTARRRYTRRKNRICYLQEIFSNEMAKVDDSFHRLSEESFLV EEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLVDSTDKADLRILI YLALAHMIKFRGHFLIEGDLNPDNSDVDKLFQILVQTYNQLFEENPIN ASGVDAKAILSARLSKSRRLLENLIAQLPGEKKNGLFGNLIALSLGLTP NFKSNFDLAEDAKLQLSKDTYDDDLDNLLAQIGDQYADLFLAAKNL SDAILLSDILRVNTEITKAPLSASMIKRYDEHHQDLTLLKALVRQQLE PKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLVK LNREDLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKI EKILTFRIPYYVGPLARGNSRFAWMTRKSEETITPWNFEVVDKKGAS AQSFIERMTNFDKNLPNEKVLPHKSLLEYEYFTVYNELTKVKYVTEG MRKPAFLSGEQKKAIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEI SGVEDRFNASLGTYHDLKIIKDKDFLDNEENEDILEDIVLTLTLFED REMIEERLKYAHLFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQ SGKTILDFLKSDFANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLH</p>

		<p>EHIANLAGSPAIAKKGILQTVKVVDDELVKVMGRHHPENIVIAMARENQ TTQKGQKNSRERMKRIEEGKELGSQILKEHPVENTQLQNEKLYLYY LQNGRDMYVDQELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSD KNRGKSDNVPSEEVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERG GLSELDKAGFIKRQLVETRQITKHVAQILDSRMNTKYDENDKLIREV KVITLKSKLVSDFRKDFQFYKREINNYHHAHDAYLNAVVGITALIK KYPKLESEFVYGDYKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFF KTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNI VKKTEVQTGGFSKESILPKRNSDKLIARKKDWDPKKYGGFDSPTVA YSVLVVAKEVGKSKKLKSVKELLGITIMERSSEKPNIDFLEAKGY KEVKKDLIHKLPKYSLFELENGRKRMLASAGELQKGNELALPSKYVN FLYLASHYEKLKGSPEDEQKQLFVEQHKHYLDEIIEQISEFSKRVIL ADANLDKVL SAYNKH RDKPIREQAENIIHLFTLTNLGAPAAFKYFDT TIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKKRKV</p>
11 3050	(Ha)M.Hae III-T29- Cas	<p>MNLISLFSGAGGLDLGFQKAGFRIICANEYDKSIWKTYESNHS AKLIK GDISKISSDEFKCDGIIGPPCQSWSEGGSLRGIDDPRGKLFYEYIRIL KQKKPIFFLAENVKGMMAQRHNKAVQEFIQEFDNAGYDVHIILLNA NDYGVAQDRKRVFYIGFRKELNINYLPPIPHLIKPTFKDVIWDLKDNP IPALDKNKTNGNKCIPNHEYFIGSYSTIFMSANRVRQWNEPAFTVQ ASGRQCQLHPQAPVMLKVSKLMWK FVEGKEHLYRRLTVRECARVQ GFPDDFIFHYESLNDGYKMIGNAVPVNLA YEIAKTIKSALEICKNGG PSSGAPPPSGGSPAGSPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPA GSPTSTEEGTSTEPSEGSAPGTSTEPSEPKKKRKVM DKKYSIGLAIGT NSVGWAVITDEYKVPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAE ATRLKRTARRRYTRRKNRICYLQEIFS NEMAKVDDSFHRLEESFLV EEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLVDSTDKADRLI YLALAHMIKFRGHFLIEGDLNPDNSDVKLFIQLVQTYNQLFEENPIN ASGVDAKAILSARLSKSRLENLIAQLPGEKKNGLFGNLIALSLGLTP NFKSNFDLAEDAQLQSKD TYDDDLNLLAQIGDQYADLFLAAKNL SDAILLSDILRVNTEITKAPLSASMIKRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLVK LNREDLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKI EKILTFRIPYYVGPLARGNSRFAWMTRKSEETITPWNFE EVVDKGAS AQSFIERMTNFDKNLPNEKVLPKHSLLYEYFTVYNELTKVKYVTEG MRKPAFLSGEQKKAIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEI SGVEDRFNASLGTYHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFED REMIEERLKTYAHLFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQ SGKTILDFLKSDGFANRNF MQLIHDDSLTFKEDIQKAQVSGQGDSLH EHIANLAGSPAIAKKGILQTVKVVDDELVKVMGRHHPENIVIAMARENQ TTQKGQKNSRERMKRIEEGKELGSQILKEHPVENTQLQNEKLYLYY LQNGRDMYVDQELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSD KNRGKSDNVPSEEVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERG GLSELDKAGFIKRQLVETRQITKHVAQILDSRMNTKYDENDKLIREV KVITLKSKLVSDFRKDFQFYKREINNYHHAHDAYLNAVVGITALIK KYPKLESEFVYGDYKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFF KTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNI VKKTEVQTGGFSKESILPKRNSDKLIARKKDWDPKKYGGFDSPTVA YSVLVVAKEVGKSKKLKSVKELLGITIMERSSEKPNIDFLEAKGY KEVKKDLIHKLPKYSLFELENGRKRMLASAGELQKGNELALPSKYVN FLYLASHYEKLKGSPEDEQKQLFVEQHKHYLDEIIEQISEFSKRVIL ADANLDKVL SAYNKH RDKPIREQAENIIHLFTLTNLGAPAAFKYFDT TIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGGDPKKKRKV</p>
11 3151	(Hh)M.Hha I-Cas	<p>MIEIKDKQLTGLRFIDLFAGLGGRLLAESC GAECVYSNEWDKYAQE VYEMNFGEKPEGDITQVNEKTIPDHDILCAGFPCQAFSISGKQKGFED SRGTLFFDIARIVREKKPKVVFME NVKNFASHDNGNTLEVVKNTMN</p>

		<p>ELDYSFHAKVLNALDYGIPQKRERIYMICFRNDLNIQNFQFPKPFELN TFVKDLLLPDSEVEHLVIDRKDLVMTNQIEQTTPKTVRLGIVGKGG QGERIYSTRGIAITLSAYGGGIFAKTGGYLVNGKTRKLHPRECARVM GYPDSYKVHPSTSQAYKQFGNSVVINVLQYIAYNIGSSLNFKPYGGP SSGAPPPSGGSPAGSPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPA GSPTSTEEGTSTEPSEGSAPGTSTEPSEPKKRKRKVMDDKYSIGLAIGT NSVGWAVITDEYKVPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAE ATRLKRTARRRYTRRKNRICYLQEIFSNEMAKVDDSFHRLEESFLV EEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLI YLALAHMIKFRGHFLIEGDLNPDNSDVKLFIQLVQTYNQLFEENPIN ASGVDAKAILSARLSKSRRLLENLIAQLPGEKKNGLFGNLIALSLGLTP NFKSNFDLAEDAQLQLSKDTYDDDLNLLAQIGDQYADLFLAAKNL SDAILLSDILRVNTEITKAPLSASMIKRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLVK LNREDLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKI EKILTRIPYYVGPLARGNSRFAWMTRKSEETITPWNFEVVDKGAS AQSFIERMTNFDKNLPNEKVLPKHSLLYEYFTVYNELTKVKYVTEG MRKPAFLSGEQKKAIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEI SGVEDRFNASLGTYHDLKIIKDKDFLDNEENEDILEDIVLTLTLFED REMIEERLKTYAHLFDDKVMKQLKRRRYTGWGRLSRKLINGIRDQK SGKTILDFLKSDGFANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLH EHIANLAGSPAIIKKGILQTVKVDELVKVMGRHHPENIVEMARENQ TTQKGQKNSRERMKRIEEGIKELGSQILKEHPVENTQLQNEKLYLYY LQNGRDMYVDQELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSD KNRGKSDNVPSEEVVKMKMKNYWRQLLNAKLITQRKFDNLTKAERG GLSELDKAGFIKRQLVETRQITKHVAQILDSRMNTKYDENDKLIREV KVITLKSCLVSDFRKDFQFYKVINNYHHAHDAYLNAVVG TALIK KYPKLESEFVYGDYKVYDVRKMIKSEQEIGKATAKYFFYSNIMNFF KTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNI VKKTEVQTGGFSKESILPKRNSDKLIARKKDWDPKKYGGFDSPTVA YSVLVVAKVEKGKSKKLKSVKELLGITIMERSSEFKNPIDFLEAKGY KEVKKDLIIKLPKYSLFELENGRKRMLASAGELQKGNELALPSKYVN FLYLASHYEKLKGSPEDEQKQLFVEQHKHYLDEIIEQISEFSKRVL ADANLDKVL SAYNKHDKPIREQAENIIHLFTLTNLGAPAAFKYFDT TIDRKRYTSTKEVLDTLIHQ SITGLYETRIDLSQLGGDPKKKRKV</p>
113252	(Ms)M.Ms pI-Cas	<p>MKPEILKLIRSKLDLTQKQASEIIEVSDKTWQQWESGKTEMHPAYYS FLQEKLDKINFEELSAQKTLQKKIFDKYNQNQITKNAEELAEITHIE ERKDAYSSDFKFIDLFSGIGGIRQSFEVNGGKCVFSSEIDPFAKFTYYT NFGVVPFGDITKVEATTIPQHDILCAGFPCQPF SHIGKREGFEHPTQGT MFHEIVRIETKKT PVLFLENVPGLINHDDGNTLKVIIETLEDMGYKV HHTVLDASHFGIPQKRKR FYLVAFLNQNIHFEPKPPMISKDIGEVLE SDVTGYSISEHLQKSYLFFKDDGKPSLIDKNNTTGAVKTLVSTYHKIQ RLTGTFVKDGETGIRLLTTNECKAIMGF PKDFVIPVSRTQMYRQMGN SVVVPVVTKIAEQISLALKTVNQSPQENFELELVGGPSSGAPPPSGG SPAGSPTSTEEGTSESATPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTS TEPSEGSAPGTSTEPSEPKKRKRKVMDDKYSIGLAIGTNSVGWAVITD EYKVPSKKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTARR RYTRRKNRICYLQEIFSNEMAKVDDSFHRLEESFLVEEDKKHERHPI FGNIVDEVAYHEKYPTIYHLRKKLVDSTDKADLRLIYLALAHMIKFR GHFLIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILS ARLSKSRRLLENLIAQLPGEKKNGLFGNLIALSLGLTPNFKSNFDLAED AKLQLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRV NTEITKAPLSASMIKRYDEHHQDLTLLKALVRQQLPEKYKEIFFDQS KNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNREDLLRKQ RTFDNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTRIPYY</p>

		<p>VGPLARGNSRFAWMTRKSEETITPWNFEEVVDKGASAQSFIERMTN FDKNLPNEKVLPKHSLLEYEFTVYNELTKVKYVTEGMRKPAFLSGE QKKAIVDLLFKTNRKVTVKQLKEDYFKKIECFDSVEISGVEDRFNAS LGTYHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTY AHLFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKS DGFANRNFQMQLIHDDSLTFKEDIQKAQVSGQGDSLHEHIANLAGSPA IKKGILQTVKVVDDELVKVMGRHKPENIVIAMARENQTTQKGQKNSR ERMKRIEEGIKELGSQILKEHPVENTQLQNEKLYLYYLQNGRDMYV DQELDINRLSDYDVDAIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVP SEEVVKKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFI KRQLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITLKSCLVS DFRKDFQFYKVBREINNYHHAHDAYLNAVVG TALIKKYPKLESEFVY GDYKVYDVRKMIAKSEQEIGKATAKYFFYSNIMNFFKTEITLANGEI RKRPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTG GFSKESILPKRNSDKLIARKKDWDPKKYGGFDSPTVAYSVLVVAKV EKGKSKKLKSVKELLGITIMERSSEFEKNPIDFLEAKGYKEVKKDLIHK LPKYSLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYE KLKGSPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVLADANL DKVL SAYNKHARDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTST KEVL DATLIHQ SITGLYETRIDLSQLGGDPKKKRKV</p>
113353	(Ai)Masc1-Cas	<p>MSERRYEAGMTVALHEGSFLKIQRVYIRQYHADNRREHMLVGPLFR RTKYLKALSKKVNEVAIVHESIHPVQDVIGVRELIITNRPFPECRK DEHTGRLVCRWVYNLDERAKGREYKKQRYIRRITEAEADPEYRVED RVLRRRWVFQEGYIGDEISYKEHNGNDIVDIRSESPLQVLGDWGGDLV DLENGEETSIPGPCRSASSYGRMLKPPLAQAADSNTSRKYTFGDTFC GGGGVSLGARQAGLEVKWA FDMNPNAGANYRRNFPNTDFFLA EAE QFIQLSVGISQHVDILHLSPPCQTF SRAHTIAGKNDENNEASFFAVN LIKAVRPRLFTVEETDGIMDRQSRQFIDTALMGITELGYSFRICVLNAI EYGVCQNRKRLIIIGAAPGEELPPFPLPTHQDFFSKDPRRDLLPAVTLD DALSTITPESTDHHLNHVWQPAEWKTPYDAHRPFKN AIRAGGGEYD IYPDGRRKFTVRELACIQGFPEYEFVGT LDKRRIIGNAVPPPLSAAI MSTLRQWMTEKDFERMEGGPSSGAPPPSGGSPAGSPTSTEEGTSESA TPESGPGTSTEPSEGSAPGSPAGSPTSTEEGTSTEPSEGSAPGTSTEPSE PKKKRKVMDKKYSIGLAIGTNSVGWAVITDEYKVPSKKFKVLGNTD RHSIKKNLIGALLFDSGETAEATRLKRTARRRYTRRKNRICYLQEIFS NEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEKYPT IYHLRKKLVDSTDKADRLIYLALAHMIKFRGHFLIEGDLNPDNSDV DKLFIQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRENLI AQL PGEKKNGLFGNLIASLGLTPNFKSNFDLAEDAKLQLSKD TYDDDLD NLLAQIGDQYADLFLAAKNLS DAILLSDILRVNTEITKAPLSASMIKR YDEHHQDLTLLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGASQE EFYKFIKPILEKMDGTEELLVKLNREDLLRKQRTFDNGSIPHQIHLGE LHAILRRQEDFY PFLKDNREKIEKILTFRIPYYVGPLARGNSRFAWMT RKSEETITPWNFEEVVDKGASAQSFIERMTNFDKNLPNEKVLPKHSL LEYEFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNRKV TVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKDFL DNEENEDILEDIVLTLTLFEDREMIEERLKTYAHLFDDKVMKQLKRR RYTGWGRLSRKLINGIRDKQSGKTILDFLKS DGFANRNFQMQLIHDDSL TFKEDIQKAQVSGQGDSLHEHIANLAGSPA I KKGILQTVKVVDDELV KVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEEGIKELGSQI LKEHPVENTQLQNEKLYLYYLQNGRDMYVDQELDINRLSDYDVDAI VPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKKMKNYWRQL LNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVAQ ILDSRMNTKYDENDKLIREVKVITLKSCLVSDFRKDFQFYKVBREINN YHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVYDVRKMIAKS</p>