

Sequence Listing

<110> SHANGHAI TOLO BIOTECHNOLOGY COMPANY LIMITED
SHANGHAI INSTITUTES FOR BIOLOGICAL SCIENCES, CHINESE ACADEMY OF SCIENCES

<120> USE OF CAS PROTEIN, METHOD FOR DETECTING TARGET NUCLEIC ACID MOLECULE, AND
KIT

<130> P2018-0447

<150> CN201710573752.0

<151> 2017-07-14

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<170> PatentIn version 3.5

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 20 25 30

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 35 40 45

Tyr Arg Arg Ser Pro Asn Gly Asp Gly Glu Gln Glu Cys Asp Lys Thr
50 55 60

Ala Glu Glu Cys Lys Ala Glu Leu Leu Glu Arg Leu Arg Ala Arg Gln
65 70 75 80

Val Glu Asn Gly His Arg Gly Pro Ala Gly Ser Asp Asp Glu Leu Leu
85 90 95

Gln Leu Ala Arg Gln Leu Tyr Glu Leu Leu Val Pro Gln Ala Ile Gly
100 105 110

Ala Lys Gly Asp Ala Gln Gln Ile Ala Arg Lys Phe Leu Ser Pro Leu
115 120 125

Ala Asp Lys Asp Ala Val Gly Gly Leu Gly Ile Ala Lys Ala Gly Asn
130 135 140

Lys Pro Arg Trp Val Arg Met Arg Glu Ala Gly Glu Pro Gly Trp Glu
145 150 155 160

Glu Glu Lys Glu Lys Ala Glu Thr Arg Lys Ser Ala Asp Arg Thr Ala
165 170 175

Asp Val Leu Arg Ala Leu Ala Asp Phe Gly Leu Lys Pro Leu Met Arg
180 185 190

Val Tyr Thr Asp Ser Glu Met Ser Ser Val Glu Trp Lys Pro Leu Arg
195 200 205

Lys Gly Gln Ala Val Arg Thr Trp Asp Arg Asp Met Phe Gln Gln Ala
210 215 220

Ile	Glu	Arg	Met	Met	Ser	Trp	Glu	Ser	Trp	Asn	Gln	Arg	Val	Gly	Gln
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Glu	Tyr	Ala	Lys	Leu	Val	Glu	Gln	Lys	Asn	Arg	Phe	Glu	Gln	Lys	Asn
			245						250					255	

Phe	Val	Gly	Gln	Glu	His	Leu	Val	His	Leu	Val	Asn	Gln	Leu	Gln	Gln
		260						265					270		

Asp	Met	Lys	Glu	Ala	Ser	Pro	Gly	Leu	Glu	Ser	Lys	Glu	Gln	Thr	Ala
	275						280					285			

His	Tyr	Val	Thr	Gly	Arg	Ala	Leu	Arg	Gly	Ser	Asp	Lys	Val	Phe	Glu
290						295					300				

Lys	Trp	Gly	Lys	Leu	Ala	Pro	Asp	Ala	Pro	Phe	Asp	Leu	Tyr	Asp	Ala
305				310						315					320

Glu	Ile	Lys	Asn	Val	Gln	Arg	Arg	Asn	Thr	Arg	Arg	Phe	Gly	Ser	His
			325					330						335	

Asp	Leu	Phe	Ala	Lys	Leu	Ala	Glu	Pro	Glu	Tyr	Gln	Ala	Leu	Trp	Arg
		340						345					350		

Glu	Asp	Ala	Ser	Phe	Leu	Thr	Arg	Tyr	Ala	Val	Tyr	Asn	Ser	Ile	Leu
	355						360					365			

Arg	Lys	Leu	Asn	His	Ala	Lys	Met	Phe	Ala	Thr	Phe	Thr	Leu	Pro	Asp
370						375					380				

Ala	Thr	Ala	His	Pro	Ile	Trp	Thr	Arg	Phe	Asp	Lys	Leu	Gly	Gly	Asn
385				390					395						400

Leu His Gln Tyr Thr Phe Leu Phe Asn Glu Phe Gly Glu Arg Arg His
405 410 415

Ala Ile Arg Phe His Lys Leu Leu Lys Val Glu Asn Gly Val Ala Arg
420 425 430

Glu Val Asp Asp Val Thr Val Pro Ile Ser Met Ser Glu Gln Leu Asp
435 440 445

Asn Leu Leu Pro Arg Asp Pro Asn Glu Pro Ile Ala Leu Tyr Phe Arg
450 455 460

Asp Tyr Gly Ala Glu Gln His Phe Thr Gly Glu Phe Gly Gly Ala Lys
465 470 475 480

Ile Gln Cys Arg Arg Asp Gln Leu Ala His Met His Arg Arg Arg Gly
485 490 495

Ala Arg Asp Val Tyr Leu Asn Val Ser Val Arg Val Gln Ser Gln Ser
500 505 510

Glu Ala Arg Gly Glu Arg Arg Pro Pro Tyr Ala Ala Val Phe Arg Leu
515 520 525

Val Gly Asp Asn His Arg Ala Phe Val His Phe Asp Lys Leu Ser Asp
530 535 540

Tyr Leu Ala Glu His Pro Asp Asp Gly Lys Leu Gly Ser Glu Gly Leu
545 550 555 560

Leu Ser Gly Leu Arg Val Met Ser Val Asp Leu Gly Leu Arg Thr Ser
565 570 575

Ala Ser Ile Ser Val Phe Arg Val Ala Arg Lys Asp Glu Leu Lys Pro
580 585 590

Asn Ser Lys Gly Arg Val Pro Phe Phe Phe Pro Ile Lys Gly Asn Asp
595 600 605

Asn Leu Val Ala Val His Glu Arg Ser Gln Leu Leu Lys Leu Pro Gly
610 615 620

Glu Thr Glu Ser Lys Asp Leu Arg Ala Ile Arg Glu Glu Arg Gln Arg
625 630 635 640

Thr Leu Arg Gln Leu Arg Thr Gln Leu Ala Tyr Leu Arg Leu Leu Val
645 650 655

Arg Cys Gly Ser Glu Asp Val Gly Arg Arg Glu Arg Ser Trp Ala Lys
660 665 670

Leu Ile Glu Gln Pro Val Asp Ala Ala Asn His Met Thr Pro Asp Trp
675 680 685

Arg Glu Ala Phe Glu Asn Glu Leu Gln Lys Leu Lys Ser Leu His Gly
690 695 700

Ile Cys Ser Asp Lys Glu Trp Met Asp Ala Val Tyr Glu Ser Val Arg
705 710 715 720

Arg Val Trp Arg His Met Gly Lys Gln Val Arg Asp Trp Arg Lys Asp
725 730 735

Val Arg Ser Gly Glu Arg Pro Lys Ile Arg Gly Tyr Ala Lys Asp Val
740 745 750

Val Gly Gly Asn Ser Ile Glu Gln Ile Glu Tyr Leu Glu Arg Gln Tyr
755 760 765

Lys Phe Leu Lys Ser Trp Ser Phe Phe Gly Lys Val Ser Gly Gln Val
770 775 780

Ile Arg Ala Glu Lys Gly Ser Arg Phe Ala Ile Thr Leu Arg Glu His
785 790 795 800

Ile Asp His Ala Lys Glu Asp Arg Leu Lys Lys Leu Ala Asp Arg Ile
805 810 815

Ile Met Glu Ala Leu Gly Tyr Val Tyr Ala Leu Asp Glu Arg Gly Lys
820 825 830

Gly Lys Trp Val Ala Lys Tyr Pro Pro Cys Gln Leu Ile Leu Leu Glu
835 840 845

Glu Leu Ser Glu Tyr Gln Phe Asn Asn Asp Arg Pro Pro Ser Glu Asn
850 855 860

Asn Gln Leu Met Gln Trp Ser His Arg Gly Val Phe Gln Glu Leu Ile
865 870 875 880

Asn Gln Ala Gln Val His Asp Leu Leu Val Gly Thr Met Tyr Ala Ala
885 890 895

Phe Ser Ser Arg Phe Asp Ala Arg Thr Gly Ala Pro Gly Ile Arg Cys
900 905 910

Arg Arg Val Pro Ala Arg Cys Thr Gln Glu His Asn Pro Glu Pro Phe
915 920 925

Pro Trp Trp Leu Asn Lys Phe Val Val Glu His Thr Leu Asp Ala Cys
930 935 940

Pro Leu Arg Ala Asp Asp Leu Ile Pro Thr Gly Glu Gly Glu Ile Phe
945 950 955 960

Val Ser Pro Phe Ser Ala Glu Glu Gly Asp Phe His Gln Ile His Ala
965 970 975

Asp Leu Asn Ala Ala Gln Asn Leu Gln Gln Arg Leu Trp Ser Asp Phe
980 985 990

Asp Ile Ser Gln Ile Arg Leu Arg Cys Asp Trp Gly Glu Val Asp Gly
995 1000 1005

Glu Leu Val Leu Ile Pro Arg Leu Thr Gly Lys Arg Thr Ala Asp
1010 1015 1020

Ser Tyr Ser Asn Lys Val Phe Tyr Thr Asn Thr Gly Val Thr Tyr
1025 1030 1035

Tyr Glu Arg Glu Arg Gly Lys Lys Arg Arg Lys Val Phe Ala Gln
1040 1045 1050

Glu Lys Leu Ser Glu Glu Glu Ala Glu Leu Leu Val Glu Ala Asp
1055 1060 1065

Glu Ala Arg Glu Lys Ser Val Val Leu Met Arg Asp Pro Ser Gly
1070 1075 1080

Ile Ile Asn Arg Gly Asn Trp Thr Arg Gln Lys Glu Phe Trp Ser
1085 1090 1095

Met Val Asn Gln Arg Ile Glu Gly Tyr Leu Val Lys Gln Ile Arg
1100 1105 1110

Ser Arg Val Pro Leu Gln Asp Ser Ala Cys Glu Asn Thr Gly Asp
1115 1120 1125

Ile