Figure 1A, SEQ ID NO: 1: Consensus nucleic acid sequence of HIV ConS ΔCFI (Native signal peptide in bold, native transmembrane and cytosolic domains are underlined)

ATGCGCGTGCGCGGCATCCAGCGCAACTGCCAGCACCTGTGGCGCTGGGGCACCCTGATCCTGGGCATGCTG
ATGATCTGCTCCGCCGCCGAGAACCTGTGGGTGACCGTGTACTACGGCGTGCCCGTGTGGAAGGAGGCCAAC
ACCACCCTGTTCTGCGCCTCCGACGCCAAGGCCTACGACACCGAGGTGCACAACGTGTGGGCCACCCACGCCT
GCGTGCCCACCGACCCCAACCCCCAGGAGATCGTGCTGGAGAACGTGACCGAGAACTTCAACATGTGGAAGA
ACAACATGGTGGAGCAGATGCACGAGGACATCATCTCCCTGTGGGACCAGTCCCTGAAGCCCTGCGTGAAGCT
GACCCCCCTGTGCGTGACCCTGAACTGCACCAACGTGAACGTGACCAACACCACCAACAACACCGAGGAGAAG
GGCGAGATCAAGAACTGCTCCTTCAACATCACCACCGAGATCCGCGACAAGAAGCAGAAGGTGTACGCCCTGT
TCTACCGCCTGGACGTGGTGCCCATCGACGACAACAACAACAACTCCTCCAACTACCGCCTGATCAACTGCAAC
ACCTCCGCCATCACCCAGGCCTGCCCCAAGGTGTCCTTCGAGCCCATCCCCATCCACTACTGCGCCCCCGCCGG
CTTCGCCATCCTGAAGTGCAACGACAAGAAGTTCAACGGCACCGGCCCCTGCAAGAACGTGTCCACCGTGCAG
TGCACCCACGGCATCAAGCCCGTGGTGTCCACCCAGCTGCTGCTGAACGGCTCCCTGGCCGAGGAGGAGATCA
TCATCCGCTCCGAGAACATCACCAACAACGCCAAGACCATCATCGTGCAGCTGAACGAGTCCGTGGAGATCAA
CTGCACCCGCCCCAACAACAACACCCGCAAGTCCATCCGCATCGGCCCCGGCCAGGCCTTCTACGCCACCGGC
GACATCATCGGCGACATCCGCCAGGCCCACTGCAACATCTCCGGCACCAAGTGGAACAAGACCCTGCAGCAGG
TGGCCAAGAAGCTGCGCGAGCACTTCAACAACAAGACCATCATCTTCAAGCCCTCCTCCGGCGGCGACCTGGA
GATCACCACCCACTCCTTCAACTGCCGCGGCGAGTTCTTCTACTGCAACACCTCCGGCCTGTTCAACTCCACCTG
GATCGGCAACGGCACCAAGAACAACAACAACACCAACGACACCATCACCCTGCCCTGCCGCATCAAGCAGATC
ATCAACATGTGGCAGGGCGTGGGCCAGGCCATGTACGCCCCCCCCATCGAGGGCAAGATCACCTGCAAGTCC
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GCGGCGGCGACATGCGCGACAACTGGCGCTCCGAGCTGTACAAGTACAAGGTGGTGAAGATCGAGCCCCTGG
GCGTGGCCCCCACCAAGGCCAAGCTGACCGTGCAGGCCCGCCAGCTGCTGTCCGGCATCGTGCAGCAGCAGT
CCAACCTGCTGCGCGCCATCGAGGCCCAGCAGCACCTGCTGCAGCTGACCGTGTGGGGCATCAAGCAGCTGC
AGGCCCGCGTGCTGGCCGTGGAGCGCTACCTGAAGGACCAGCAGCTGCTGGAGATCTGGGACAACATGACCT
GGATGGAGTGGGAGCGCGAGATCAACAACTACACCGACATCATCTACTCCCTGATCGAGGAGTCCCAGAACC
AGCAGGAGAAGAACGAGCAGGAGCTGCTGGCCCTGGACAAGTGGGCCTCCCTGTGGAACTGGTTCGACATCA
CCAACTGGCTGTGGTACATC<u>AAGATCTTCATCATGATCGTGGGCGGCCTGATCGGCCTGCGCATCGTGTTCGCC
GTGCTGTCCATCGTGAACCGCGTGCGCCAGGGCTACTCCCCCCTGTCCTTCCAGACCCTGATCCCCAACCCCCG
CGGCCCCGACCGCCCCGAGGGCATCGAGGAGGAGGGCGGCGAGCAGGACCGCGACCGCTCCATCCGCCTGG
TGAACGGCTTCCTGGCCCTGGCCTGGGACGACCTGCGCTCCCTGTGCCTGTTCTCCTACCACCGCCTGCGCGAC
TTCATCCTGATCGCCGCCCGCACCGTGGAGCTGCTGGGCCGCAAGGGCCTGCGCCGCGGCTGGGAGGCCCTG
AAGTACCTGTGGAACCTGCTGCAGTACTGGGGCCAGGAGCTGAAGAACTCCGCCATCTCCCTGCTGGACACCA
CCGCCATCGCCGTGGCCGAGGGCACCGACCGCGTGATCGAGGTGGTGCAGCGCGCCTGCCGCGCCATCCTGA
ACATCCCCCGCCGCATCCGCCAGGGCCTGGAGCGCGCCCTGCTG</u>TAA

Figure 1B, SEQ ID NO: 2

IF-ApaI-SpPDI.c
TGCCCAAATTTGTCGGGCCCATGGCGAAAAACGTTGCGATTTTCGGCTTA

Figure 1C, SEQ ID NO: 3

SpPDI-HIV gp145.r
CACAGGTTCTCGGCGGCGAAGATCTGAGAAGGAACCAACACAAGAAGAG

Figure 1D, SEQ ID NO: 4

IF-SpPDI-gp145.c
TCTCAGATCTTCGCCGCCGAGAACCTGTGGGTGACCGTGTACTAC

Figure 1E, SEQ ID NO: 5

WtdTm-gp145.r
CCTTTACAGCAGGGCGCGCTCCAGGCCCTGGCGGATGC

Figure 1F, SEQ ID NO: 6: Expression cassette number 995, from PacI (upstream of the promoter) to AscI (immediately downstream of the NOS terminator). Eliminated SbfI restriction site is bolded. PDISP-HIV ConS ΔCFI is underlined.

TTAATTAAGTCGACAAGCTTGCATG**CCGG**TCAACATGGTGGAGCACGACACACTTGTCTACTCCAAAAATATCA
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ATTCCATTGCCCAGCTATCTGTCACTTTATTGTGAAGATAGTGGAAAAGGAAGGTGGCTCCTACAAATGCCATC
ATTGCGATAAAGGAAAGGCCATCGTTGAAGATGCCTCTGCCGACAGTGGTCCCAAAGATGGACCCCCACCCAC
GAGGAGCATCGTGGAAAAAGAAGACGTTCCAACCACGTCTTCAAAGCAAGTGGATTGATGTGATAACATGGT
GGAGCACGACACACTTGTCTACTCCAAAAATATCAAAGATACAGTCTCAGAAGACCAAAGGGCAATTGAGACT
TTTCAACAAAGGGTAATATCCGGAAACCTCCTCGGATTCCATTGCCCAGCTATCTGTCACTTTATTGTGAAGATA
GTGGAAAAGGAAGGTGGCTCCTACAAATGCCATCATTGCGATAAAGGAAAGGCCATCGTTGAAGATGCCTCT
GCCGACAGTGGTCCCAAAGATGGACCCCCACCCACGAGGAGCATCGTGGAAAAAGAAGACGTTCCAACCACG
TCTTCAAAGCAAGTGGATTGATGTGATATCTCCACTGACGTAAGGGATGACGCACAATCCCACTATCCTTCGCA
AGACCCTTCCTCTATATAAGGAAGTTCATTTCATTTGGAGAGGTATTAAAATCTTAATAGGTTTTGATAAAAGC
GAACGTGGGGAAACCCGAACCAAACCTTCTTCTAAACTCTCTCTCATCTCTCTTAAAGCAAACTTCTCTCTTGTC
TTTCTTGCGTGAGCGATCTTCAACGTTGTCAGATCGTGCTTCGGCACCAGTACAACGTTTTCTTTCACTGAAGCG
AAATCAAAGATCTCTTTGTGGACACGTAGTGCGGCGCCATTAAATAACGTGTACTTGTCCTATTCTTGTCGGTG
TGGTCTTGGGAAAAGAAAGCTTGCTGGAGGCTGCTGTTCAGCCCCATACATTACTTGTTACGATTCTGCTGACT
TTCGGCGGGTGCAATATCTCTACTTCTGCTTGACGAGGTATTGTTGCCTGTACTTCTTTCTTCTTCTTCTTGCTGA
TTGGTTCTATAAGAAATCTAGTATTTTCTTTGAAACAGAGTTTTCCCGTGGTTTTCGAACTTGGAGAAAGATTGT
TAAGCTTCTGTATATTCTGCCCAAATTTGTCGGGCCC<u>ATGGCGAAAAACGTTGCGATTTTCGGCTTATTGTTTTC
TCTTCTTGTGTTGGTTCCTTCTCAGATCTTCGCCGCCGAGAACCTGTGGGTGACCGTGTACTACGGCGTGCCCG
TGTGGAAGGAGGCCAACACCACCCTGTTCTGCGCCTCCGACGCCAAGGCCTACGACACCGAGGTGCACAACGT
GTGGGCCACCCACGCCTGCGTGCCCACCGACCCCAACCCCCAGGAGATCGTGCTGGAGAACGTGACCGAGAA
CTTCAACATGTGGAAGAACAACATGGTGGAGCAGATGCACGAGGACATCATCTCCCTGTGGGACCAGTCCCTG
AAGCCCTGCGTGAAGCTGACCCCCCTGTGCGTGACCCTGAACTGCACCAACGTGAACGTGACCAACACCACCA
ACAACACCGAGGAGAAGGGCGAGATCAAGAACTGCTCCTTCAACATCACCACCGAGATCCGCGACAAGAAGC
AGAAGGTGTACGCCCTGTTCTACCGCCTGGACGTGGTGCCCATCGACGACAACAACAACAACTCCTCCAACTAC
CGCCTGATCAACTGCAACACCTCCGCCATCACCCAGGCCTGCCCCAAGGTGTCCTTCGAGCCCATCCCCATCCA
CTACTGCGCCCCCGCCGGCTTCGCCATCCTGAAGTGCAACGACAAGAAGTTCAACGGCACCGGCCCCTGCAAG
AACGTGTCCACCGTGCAGTGCACCCACGGCATCAAGCCCGTGGTGTCCACCCAGCTGCTGCTGAACGGCTCCC
TGGCCGAGGAGGAGATCATCATCCGCTCCGAGAACATCACCAACAACGCCAAGACCATCATCGTGCAGCTGAA
CGAGTCCGTGGAGATCAACTGCACCCGCCCCAACAACAACACCCGCAAGTCCATCCGCATCGGCCCCGGCCAG
GCCTTCTACGCCACCGGCGACATCATCGGCGACATCCGCCAGGCCCACTGCAACATCTCCGGCACCAAGTGGA
ACAAGACCCTGCAGCAGGTGGCCAAGAAGCTGCGCGAGCACTTCAACAACAAGACCATCATCTTCAAGCCCTC
CTCCGGCGGCGACCTGGAGATCACCACCCACTCCTTCAACTGCCGCGGCGAGTTCTTCTACTGCAACACCTCCG
GCCTGTTCAACTCCACCTGGATCGGCAACGGCACCAAGAACAACAACAACACCAACGACACCATCACCCTGCC
CTGCCGCATCAAGCAGATCATCAACATGTGGCAGGGCGTGGGCCAGGCCATGTACGCCCCCCCCATCGAGGG
CAAGATCACCTGCAAGTCCAACATCACCGGCCTGCTGCTGACCCGCGACGGCGGCAACAACAACACCAACGAG
ACCGAGATCTTCCGCCCCGGCGGCGGCGACATGCGCGACAACTGGCGCTCCGAGCTGTACAAGTACAAGGTG
GTGAAGATCGAGCCCCTGGGCGTGGCCCCCACCAAGGCCAAGCTGACCGTGCAGGCCCGCCAGCTGCTGTCC
GGCATCGTGCAGCAGCAGTCCAACCTGCTGCGCGCCATCGAGGCCCAGCAGCACCTGCTGCAGCTGACCGTGT
GGGGCATCAAGCAGCTGCAGGCCCGCGTGCTGGCCGTGGAGCGCTACCTGAAGGACCAGCAGCTGCTGGAG
ATCTGGGACAACATGACCTGGATGGAGTGGGAGCGCGAGATCAACAACTACACCGACATCATCTACTCCCTGA
TCGAGGAGTCCCAGAACCAGCAGGAGAAGAACGAGCAGGAGCTGCTGGCCCTGGACAAGTGGGCCTCCCTGT
GGAACTGGTTCGACATCACCAACTGGCTGTGGTACATCAAGATCTTCATCATGATCGTGGGCGGCCTGATCGG

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GACCGCTCCATCCGCCTGGTGAACGGCTTCCTGGCCCTGGCCTGGGACGACCTGCGCTCCCTGTGCCTGTTCTC
CTACCACCGCCTGCGCGACTTCATCCTGATCGCCGCCCGCACCGTGGAGCTGCTGGGCCGCAAGGGCCTGCGC
CGCGGCTGGGAGGCCCTGAAGTACCTGTGGAACCTGCTGCAGTACTGGGGCCAGGAGCTGAAGAACTCCGCC
ATCTCCCTGCTGGACACCACCGCCATCGCCGTGGCCGAGGGCACCGACCGCGTGATCGAGGTGGTGCAGCGC
GCCTGCCGCGCCATCCTGAACATCCCCCGCCGCATCCGCCAGGGCCTGGAGCGCGCCCTGCTGTAAAGGCCTA
TTTTCTTTAGTTTGAATTTACTGTTATTCGGTGTGCATTTCTATGTTTGGTGAGCGGTTTTCTGTGCTCAGAGTGT
GTTTATTTTATGTAATTTAATTTCTTTGTGAGCTCCTGTTTAGCAGGTCGTCCCTTCAGCAAGGACACAAAAAGA
TTTTAATTTTATTAAAAAAAAAAAAAAAAAAGACCGGGAATTCGATATCAAGCTTATCGACCTGCAGATCGTTC
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GAATTACGTTAAGCATGTAATAATTAACATGTAATGCATGACGTTATTTATGAGATGGGTTTTTATGATTAGAG
TCCCGCAATTATACATTTAATACGCGATAGAAAACAAAATATAGCGCGCAAACTAGGATAAATTATCGCGCGC
GGTGTCATCTATGTTACTAGATCTCTAGAGTCTCAAGCTTGGCGCGCC

Figure 1G, SED ID NO: 7: Amino acid sequence of PDISP-HIV ConS ΔCFI

MAKNVAIFGLLFSLLVLVPSQIFAAENLWVTVYYGVPVWKEANTTLFCASDAKAYDTEVHNVWATHACVPTDPNP
QEIVLENVTENFNMWKNNMVEQMHEDIISLWDQSLKPCVKLTPLCVTLNCTNVNVTNTTNNTEEKGEIKNCSFNI
TTEIRDKKQKVYALFYRLDVVPIDDNNNNSSNYRLINCNTSAITQACPKVSFEPIPIHYCAPAGFAILKCNDKKFNGTG
PCKNVSTVQCTHGIKPVVSTQLLLNGSLAEEEIIIRSENITNNAKTIIVQLNESVEINCTRPNNNTRKSIRIGPGQAFYAT
GDIIGDIRQAHCNISGTKWNKTLQQVAKKLREHFNNKTIIFKPSSGGDLEITTHSFNCRGEFFYCNTSGLFNSTWIGN
GTKNNNNTNDTITLPCRIKQIINMWQGVGQAMYAPPIEGKITCKSNITGLLLTRDGGNNNTNETEIFRPGGGDMR
DNWRSELYKYKVVKIEPLGVAPTKAKLTVQARQLLSGIVQQQSNLLRAIEAQQHLLQLTVWGIKQLQARVLAVERYL
KDQQLLEIWDNMTWMEWEREINNYTDIIYSLIEESQNQQEKNEQELLALDKWASLWNWFDITNWLWYIKIFIMIV
GGLIGLRIVFAVLSIVNRVRQGYSPLSFQTLIPNPRGPDRPEGIEEEGGEQDRDRSIRLVNGFLALAWDDLRSLCLFSY
HRLRDFILIAARTVELLGRKGLRRGWEALKYLWNLLQYWGQELKNSAISLLDTTAIAVAEGTDRVIEVVQRACRAILN
IPRRIRQGLERALL

Figure 1H: Schematic representation of construct number 995

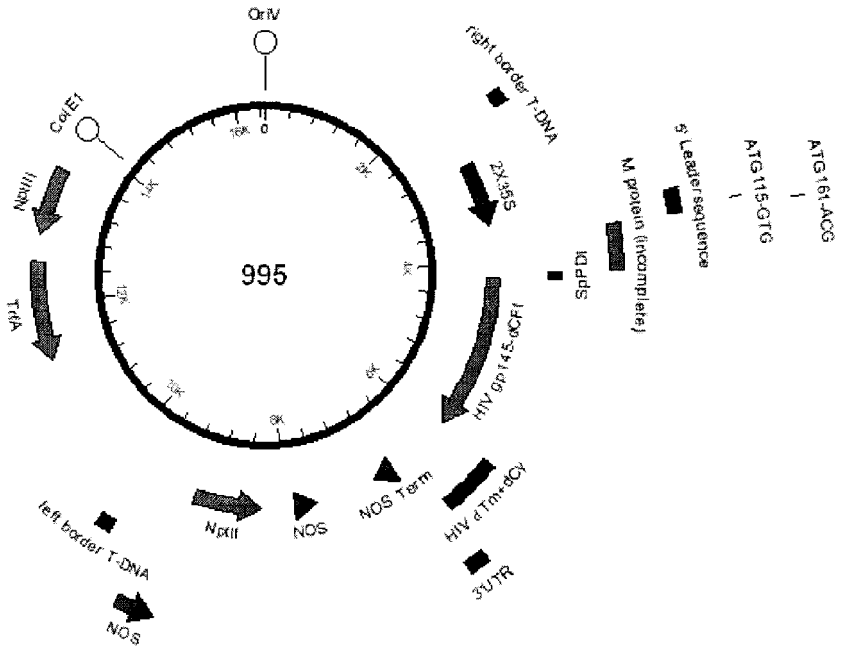


Figure 2A, SEQ ID NO: 8:

IF-H3dTm+gp145.r
CCATAGTATCCAATCGATGTACCACAGCCAGTTGGTGATGTCGAAC

Figure 2B, SEQ ID NO: 9:

Gp145+H3dTm.c
TGGCTGTGGTACATCGATTGGATACTATGGATTTCCTTTGCCATATCAT

Figure 2C, SEQ ID NO: 10:

H3dTm.r
CCTTCAAATGCAAATGTTGCACCTAATGTTGCCTT

Figure 2D, SEQ ID NO: 11: Expression cassette number 997, from PacI (upstream of the promoter) to AscI (immediately downstream of the NOS terminator). Eliminated SbfI restriction site is bolded. PDISP-HIV Con S ΔCFI-A/Brisbane/10/2007 H3 TM+CT is underlined.

TTAATTAAGTCGACAAGCTTGCATG**CCGG**TCAACATGGTGGAGCACGACACACTTGTCTACTCCAAAAATATCA
AAGATACAGTCTCAGAAGACCAAAGGGCAATTGAGACTTTTCAACAAAGGGTAATATCCGGAAACCTCCTCGG
ATTCCATTGCCCAGCTATCTGTCACTTTATTGTGAAGATAGTGGAAAAGGAAGGTGGCTCCTACAAATGCCATC
ATTGCGATAAAGGAAAGGCCATCGTTGAAGATGCCTCTGCCGACAGTGGTCCCAAAGATGGACCCCCACCCAC
GAGGAGCATCGTGGAAAAAGAAGACGTTCCAACCACGTCTTCAAAGCAAGTGGATTGATGTGATAACATGGT
GGAGCACGACACACTTGTCTACTCCAAAAATATCAAAGATACAGTCTCAGAAGACCAAAGGGCAATTGAGACT
TTTCAACAAAGGGTAATATCCGGAAACCTCCTCGGATTCCATTGCCCAGCTATCTGTCACTTTATTGTGAAGATA
GTGGAAAAGGAAGGTGGCTCCTACAAATGCCATCATTGCGATAAAGGAAAGGCCATCGTTGAAGATGCCTCT
GCCGACAGTGGTCCCAAAGATGGACCCCCACCCACGAGGAGCATCGTGGAAAAAGAAGACGTTCCAACCACG
TCTTCAAAGCAAGTGGATTGATGTGATATCTCCACTGACGTAAGGGATGACGCACAATCCCACTATCCTTCGCA
AGACCCTTCCTCTATATAAGGAAGTTCATTTCATTTGGAGAGGTATTAAAATCTTAATAGGTTTTGATAAAAGC
GAACGTGGGGAAACCCGAACCAAACCTTCTTCTAAACTCTCTCTCATCTCTCTTAAAGCAAACTTCTCTCTTGTC
TTTCTTGCGTGAGCGATCTTCAACGTTGTCAGATCGTGCTTCGGCACCAGTACAACGTTTTCTTTCACTGAAGCG
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TGGTCTTGGGAAAAGAAAGCTTGCTGGAGGCTGCTGTTCAGCCCCATACATTACTTGTTACGATTCTGCTGACT
TTCGGCGGGTGCAATATCTCTACTTCTGCTTGACGAGGTATTGTTGCCTGTACTTCTTTCTTCTTCTTCTTGCTGA
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TAAGCTTCTGTATATTCTGCCCAAATTTGTCGGGCCC<u>ATGGCGAAAAACGTTGCGATTTTCGGCTTATTGTTTTC
TCTTCTTGTGTTGGTTCCTTCTCAGATCTTCGCCGCCGAGAACCTGTGGGTGACCGTGTACTACGGCGTGCCCG
TGTGGAAGGAGGCCAACACCACCCTGTTCTGCGCCTCCGACGCCAAGGCCTACGACACCGAGGTGCACAACGT
GTGGGCCACCCACGCCTGCGTGCCCACCGACCCCAACCCCCAGGAGATCGTGCTGGAGAACGTGACCGAGAA
CTTCAACATGTGGAAGAACAACATGGTGGAGCAGATGCACGAGGACATCATCTCCCTGTGGGACCAGTCCCTG
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ACAACACCGAGGAGAAGGGCGAGATCAAGAACTGCTCCTTCAACATCACCACCGAGATCCGCGACAAGAAGC
AGAAGGTGTACGCCCTGTTCTACCGCCTGGACGTGGTGCCCATCGACGACAACAACAACAACTCCTCCAACTAC
CGCCTGATCAACTGCAACACCTCCGCCATCACCCAGGCCTGCCCCAAGGTGTCCTTCGAGCCCATCCCCATCCA
CTACTGCGCCCCCGCCGGCTTCGCCATCCTGAAGTGCAACGACAAGAAGTTCAACGGCACCGGCCCCTGCAAG
AACGTGTCCACCGTGCAGTGCACCCACGGCATCAAGCCCGTGGTGTCCACCCAGCTGCTGCTGAACGGCTCCC
TGGCCGAGGAGGAGATCATCATCCGCTCCGAGAACATCACCAACAACGCCAAGACCATCATCGTGCAGCTGAA
CGAGTCCGTGGAGATCAACTGCACCCGCCCCAACAACAACACCCGCAAGTCCATCCGCATCGGCCCCGGCCAG
GCCTTCTACGCCACCGGCGACATCATCGGCGACATCCGCCAGGCCCACTGCAACATCTCCGGCACCAAGTGGA
ACAAGACCCTGCAGCAGGTGGCCAAGAAGCTGCGCGAGCACTTCAACAACAAGACCATCATCTTCAAGCCCTC
CTCCGGCGGCGACCTGGAGATCACCACCCACTCCTTCAACTGCCGCGGCGAGTTCTTCTACTGCAACACCTCCG
GCCTGTTCAACTCCACCTGGATCGGCAACGGCACCAAGAACAACAACAACACCAACGACACCATCACCCTGCC
CTGCCGCATCAAGCAGATCATCAACATGTGGCAGGGCGTGGGCCAGGCCATGTACGCCCCCCCCATCGAGGG
CAAGATCACCTGCAAGTCCAACATCACCGGCCTGCTGCTGACCCGCGACGGCGGCAACAACAACACCAACGAG
ACCGAGATCTTCCGCCCCGGCGGCGGCGACATGCGCGACAACTGGCGCTCCGAGCTGTACAAGTACAAGGTG
GTGAAGATCGAGCCCCTGGGCGTGGCCCCCACCAAGGCCAAGCTGACCGTGCAGGCCCGCCAGCTGCTGTCC
GGCATCGTGCAGCAGCAGTCCAACCTGCTGCGCGCCATCGAGGCCCAGCAGCACCTGCTGCAGCTGACCGTGT
GGGGCATCAAGCAGCTGCAGGCCCGCGTGCTGGCCGTGGAGCGCTACCTGAAGGACCAGCAGCTGCTGGAG
ATCTGGGACAACATGACCTGGATGGAGTGGGAGCGCGAGATCAACAACTACACCGACATCATCTACTCCCTGA
TCGAGGAGTCCCAGAACCAGCAGGAGAAGAACGAGCAGGAGCTGCTGGCCCTGGACAAGTGGGCCTCCCTGT
GGAACTGGTTCGACATCACCAACTGGCTGTGGTACATCGATTGGATACTATGGATTTCCTTTGCCATATCATGT
TTTTTGCTTTGTGTTGCTTTGTTGGGGTTCATCATGTGGGCCTGCCAAAAAGGCAACATTAGGTGCAACATTTG
CATTTGA</u>AGGCCTATTTTCTTTAGTTTGAATTTACTGTTATTCGGTGTGCATTTCTATGTTTGGTGAGCGGTTTTC
TGTGCTCAGAGTGTGTTTATTTTATGTAATTTAATTTCTTTGTGAGCTCCTGTTTAGCAGGTCGTCCCTTCAGCAA
GGACACAAAAAGATTTTAATTTTATTAAAAAAAAAAAAAAAAAAGACCGGGAATTCGATATCAAGCTTATCGA
CCTGCAGATCGTTCAAACATTTGGCAATAAAGTTTCTTAAGATTGAATCCTGTTGCCGGTCTTGCGATGATTATC

ATATAATTTCTGTTGAATTACGTTAAGCATGTAATAATTAACATGTAATGCATGACGTTATTTATGAGATGGGTT
TTTATGATTAGAGTCCCGCAATTATACATTTAATACGCGATAGAAAACAAAATATAGCGCGCAAACTAGGATAA
ATTATCGCGCGCGGTGTCATCTATGTTACTAGATCTCTAGAGTCTCAAGCTTGGCGCGCC

Figure 2E, SEQ ID NO: 12: Amino acid sequence of PDISP-HIV ConS ΔCFI-A/Brisbane/10/2007 H3 TM+CT

MAKNVAIFGLLFSLLVLVPSQIFAAENLWVTVYYGVPVWKEANTTLFCASDAKAYDTEVHNVWATHACVPTDPNP
QEIVLENVTENFNMWKNNMVEQMHEDIISLWDQSLKPCVKLTPLCVTLNCTNVNVTNTTNNTEEKGEIKNCSFNI
TTEIRDKKQKVYALFYRLDVVPIDDNNNNSSNYRLINCNTSAITQACPKVSFEPIPIHYCAPAGFAILKCNDKKFNGTG
PCKNVSTVQCTHGIKPVVSTQLLLNGSLAEEEIIIRSENITNNAKTIIVQLNESVEINCTRPNNNTRKSIRIGPGQAFYAT
GDIIGDIRQAHCNISGTKWNKTLQQVAKKLREHFNNKTIIFKPSSGGDLEITTHSFNCRGEFFYCNTSGLFNSTWIGN
GTKNNNNTNDTITLPCRIKQIINMWQGVGQAMYAPPIEGKITCKSNITGLLLTRDGGNNNTNETEIFRPGGGDMR
DNWRSELYKYKVVKIEPLGVAPTKAKLTVQARQLLSGIVQQQSNLLRAIEAQQHLLQLTVWGIKQLQARVLAVERYL
KDQQLLEIWDNMTWMEWEREINNYTDIIYSLIEESQNQQEKNEQELLALDKWASLWNWFDITNWLWYIDWILW
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Figure 2F: Schematic representation of construct number 997

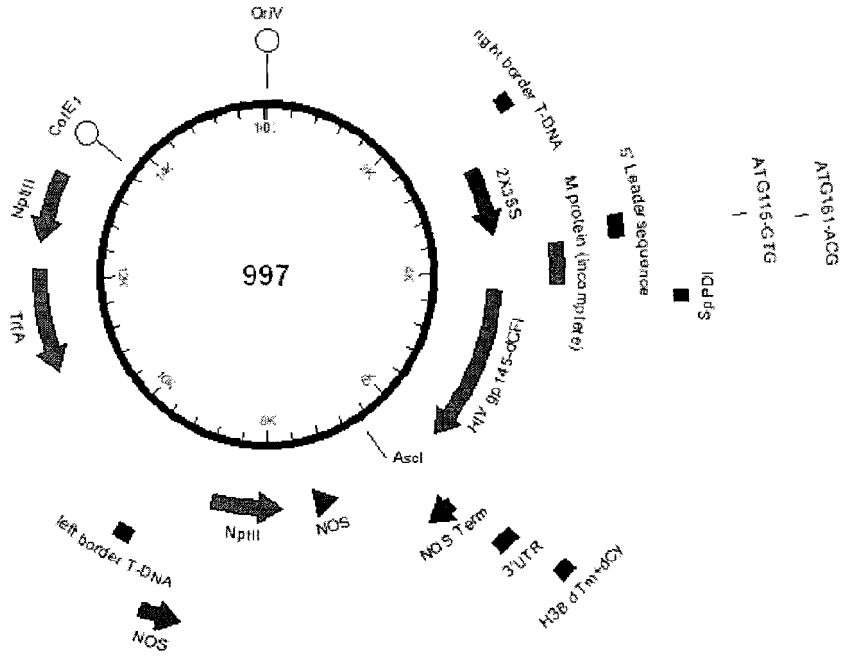


Figure 3A, SEQ ID NO: 13:

IF-H5dTm+gp145.r
AATTGACAGTATTTGGATGTACCACAGCCAGTTGGTGATGTCGAAC

Figure 3B, SEQ ID NO: 14:

Gp145+H5dTm.c
CTGGCTGTGGTACATCCAAATACTGTCAATTTATTCAACAGTGGC

Figure 3C, SEQ ID NO: 15:

IF-H5dTm.r
CCTTTAAATGCAAATTCTGCATTGTAACGATCCAT

Figure 3D, SEQ ID NO: 16: Expression cassette number 999, from PacI (upstream of the promoter) to AscI (immediately downstream of the NOS terminator). Eliminated SbfI restriction site is bolded. PDISP-HIV ConS ΔCFI-A/Indonesia/5/2005 H5 TM+CT is underlined.

TTAATTAAGTCGACAAGCTTGCATG**CCGG**TCAACATGGTGGAGCACGACACACTTGTCTACTCCAAAAATATCA
AAGATACAGTCTCAGAAGACCAAAGGGCAATTGAGACTTTTCAACAAAGGGTAATATCCGGAAACCTCCTCGG
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ATTGCGATAAAGGAAAGGCCATCGTTGAAGATGCCTCTGCCGACAGTGGTCCCAAAGATGGACCCCCACCCAC
GAGGAGCATCGTGGAAAAAGAAGACGTTCCAACCACGTCTTCAAAGCAAGTGGATTGATGTGATAACATGGT
GGAGCACGACACACTTGTCTACTCCAAAAATATCAAAGATACAGTCTCAGAAGACCAAAGGGCAATTGAGACT
TTTCAACAAAGGGTAATATCCGGAAACCTCCTCGGATTCCATTGCCCAGCTATCTGTCACTTTATTGTGAAGATA
GTGGAAAAGGAAGGTGGCTCCTACAAATGCCATCATTGCGATAAAGGAAAGGCCATCGTTGAAGATGCCTCT
GCCGACAGTGGTCCCAAAGATGGACCCCCACCCACGAGGAGCATCGTGGAAAAAGAAGACGTTCCAACCACG
TCTTCAAAGCAAGTGGATTGATGTGATATCTCCACTGACGTAAGGGATGACGCACAATCCCACTATCCTTCGCA
AGACCCTTCCTCTATATAAGGAAGTTCATTTCATTTGGAGAGGTATTAAAATCTTAATAGGTTTTGATAAAAGC
GAACGTGGGGAAACCCGAACCAAACCTTCTTCTAAACTCTCTCTCATCTCTCTTAAAGCAAACTTCTCTCTTGTC
TTTCTTGCGTGAGCGATCTTCAACGTTGTCAGATCGTGCTTCGGCACCAGTACAACGTTTTCTTTCACTGAAGCG
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TGGTCTTGGGAAAAGAAAGCTTGCTGGAGGCTGCTGTTCAGCCCCATACATTACTTGTTACGATTCTGCTGACT
TTCGGCGGGTGCAATATCTCTACTTCTGCTTGACGAGGTATTGTTGCCTGTACTTCTTTCTTCTTCTTCTTGCTGA
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TAAGCTTCTGTATATTCTGCCCAAATTTGTCGGGCCCATGGCGAAAAACGTTGCGATTTTCGGCTTATTGTTTTC
TCTTCTTGTGTTGGTTCCTTCTCAGATCTTCGCCGCCGAGAACCTGTGGGTGACCGTGTACTACGGCGTGCCCG
TGTGGAAGGAGGCCAACACCACCCTGTTCTGCGCCTCCGACGCCAAGGCCTACGACACCGAGGTGCACAACGT
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CGCCTGATCAACTGCAACACCTCCGCCATCACCCAGGCCTGCCCCAAGGTGTCCTTCGAGCCCATCCCCATCCA
CTACTGCGCCCCCGCCGGCTTCGCCATCCTGAAGTGCAACGACAAGAAGTTCAACGGCACCGGCCCCTGCAAG
AACGTGTCCACCGTGCAGTGCACCCACGGCATCAAGCCCGTGGTGTCCACCCAGCTGCTGCTGAACGGCTCCC
TGGCCGAGGAGGAGATCATCATCCGCTCCGAGAACATCACCAACAACGCCAAGACCATCATCGTGCAGCTGAA
CGAGTCCGTGGAGATCAACTGCACCCGCCCCAACAACAACACCCGCAAGTCCATCCGCATCGGCCCCGGCCAG
GCCTTCTACGCCACCGGCGACATCATCGGCGACATCCGCCAGGCCCACTGCAACATCTCCGGCACCAAGTGGA
ACAAGACCCTGCAGCAGGTGGCCAAGAAGCTGCGCGAGCACTTCAACAACAAGACCATCATCTTCAAGCCCTC
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GCCTGTTCAACTCCACCTGGATCGGCAACGGCACCAAGAACAACAACAACACCAACGACACCATCACCCTGCC
CTGCCGCATCAAGCAGATCATCAACATGTGGCAGGGCGTGGGCCAGGCCATGTACGCCCCCCCCATCGAGGG
CAAGATCACCTGCAAGTCCAACATCACCGGCCTGCTGCTGACCCGCGACGGCGGCAACAACAACACCAACGAG
ACCGAGATCTTCCGCCCCGGCGGCGGCGACATGCGCGACAACTGGCGCTCCGAGCTGTACAAGTACAAGGTG
GTGAAGATCGAGCCCCTGGGCGTGGCCCCCACCAAGGCCAAGCTGACCGTGCAGGCCCGCCAGCTGCTGTCC
GGCATCGTGCAGCAGCAGTCCAACCTGCTGCGCGCCATCGAGGCCCAGCAGCACCTGCTGCAGCTGACCGTGT
GGGGCATCAAGCAGCTGCAGGCCCGCGTGCTGGCCGTGGAGCGCTACCTGAAGGACCAGCAGCTGCTGGAG
ATCTGGGACAACATGACCTGGATGGAGTGGGAGCGCGAGATCAACAACTACACCGACATCATCTACTCCCTGA
TCGAGGAGTCCCAGAACCAGCAGGAGAAGAACGAGCAGGAGCTGCTGGCCCTGGACAAGTGGGCCTCCCTGT
GGAACTGGTTCGACATCACCAACTGGCTGTGGTACATCCAAATACTGTCAATTTATTCAACAGTGGCGAGTTCC
CTAGCACTGGCAATCATGATGGCTGGTCTATCTTTATGGATGTGCTCCAATGGATCGTTACAATGCAGAATTTG
CATTTAAAGGCCTATTTTCTTTAGTTTGAATTTACTGTTATTCGGTGTGCATTTCTATGTTTGGTGAGCGGTTTTC
TGTGCTCAGAGTGTGTTTATTTTATGTAATTTAATTTCTTTGTGAGCTCCTGTTTAGCAGGTCGTCCCTTCAGCAA
GGACACAAAAAGATTTTAATTTTATTAAAAAAAAAAAAAAAAAAGACCGGGAATTCGATATCAAGCTTATCGA
CCTGCAGATCGTTCAAACATTTGGCAATAAAGTTTCTTAAGATTGAATCCTGTTGCCGGTCTTGCGATGATTATC
ATATAATTTCTGTTGAATTACGTTAAGCATGTAATAATTAACATGTAATGCATGACGTTATTTATGAGATGGGTT
TTTATGATTAGAGTCCCGCAATTATACATTTAATACGCGATAGAAAACAAAATATAGCGCGCAAACTAGGATAA
ATTATCGCGCGCGGTGTCATCTATGTTACTAGATCTCTAGAGTCTCAAGCTTGGCGCGCC

Figure 3E, SEQ ID NO: 17: Amino acid sequence of PDISP-HIV ConS ΔCFI-A/Indonesia/5/2005 H5 TM+CT

MAKNVAIFGLLFSLLVLVPSQIFAAENLWVTVYYGVPVWKEANTTLFCASDAKAYDTEVHNVWATHACVPTDPNP
QEIVLENVTENFNMWKNNMVEQMHEDIISLWDQSLKPCVKLTPLCVTLNCTNVNVTNTTNNTEEKGEIKNCSFNI
TTEIRDKKQKVYALFYRLDVVPIDDNNNNSSNYRLINCNTSAITQACPKVSFEPIPIHYCAPAGFAILKCNDKKFNGTG
PCKNVSTVQCTHGIKPVVSTQLLLNGSLAEEEIIIRSENITNNAKTIIVQLNESVEINCTRPNNNTRKSIRIGPGQAFYAT
GDIIGDIRQAHCNISGTKWNKTLQQVAKKLREHFNNKTIIFKPSSGGDLEITTHSFNCRGEFFYCNTSGLFNSTWIGN
GTKNNNNTNDTITLPCRIKQIINMWQGVGQAMYAPPIEGKITCKSNITGLLLTRDGGNNNTNETEIFRPGGGDMR
DNWRSELYKYKVVKIEPLGVAPTKAKLTVQARQLLSGIVQQQSNLLRAIEAQQHLLQLTVWGIKQLQARVLAVERYL
KDQQLLEIWDNMTWMEWEREINNYTDIIYSLIEESQNQQEKNEQELLALDKWASLWNWFDITNWLWYIQILSIYS
TVASSLALAIMMAGLSLWMCSNGSLQCRICI

Figure 3F: Schematic representation of construct number 999

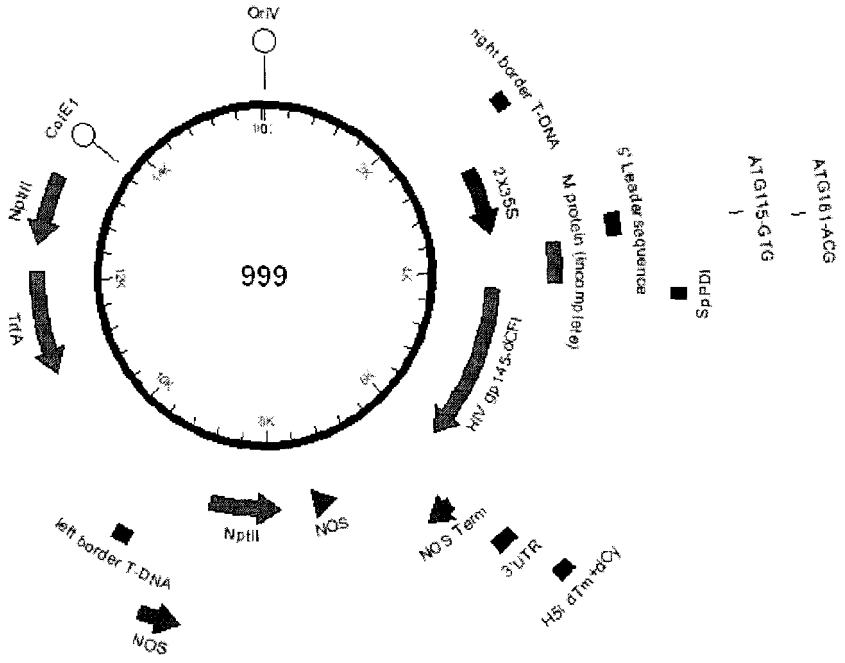


Figure 4A, SEQ ID NO: 18: Expression cassette number 172, from XmaI (upstream of the plastocyanin promoter) to EcoRI (immediately downstream of the plastocyanin terminator). TBSV P19 nucleic acid sequence is underlined.

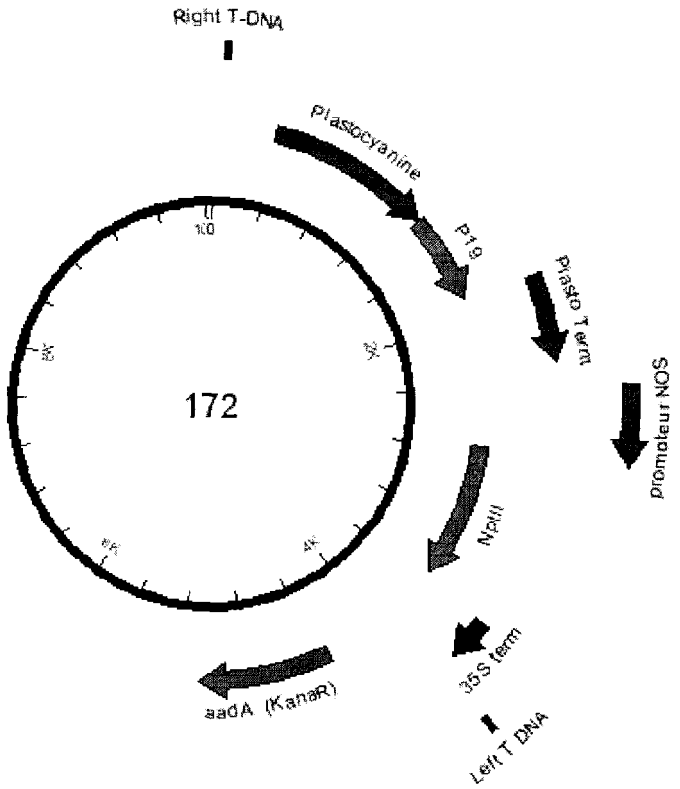
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TAAGAACAAGAGTAGTGATATTTTGACAACAATTTTGTTGCAACATTTGAGAAAATTTTGTTGTTCTCTCTTTTC
ATTGGTCAAAAACAATAGAGAGAGAAAAAGGAAGAGGGAGAATAAAAACATAATGTGAGTATGAGAGAGAA
AGTTGTACAAAAGTTGTACCAAAATAGTTGTACAAATATCATTGAGGAATTTGACAAAAGCTACACAAATAAG
GGTTAATTGCTGTAAATAAATAAGGATGACGCATTAGAGAGATGTACCATTAGAGAATTTTTGGCAAGTCATT
AAAAAGAAAGAATAAATTATTTTTAAAATTAAAAGTTGAGTCATTTGATTAAACATGTGATTATTTAATGAATT
GATGAAAGAGTTGGATTAAAGTTGTATTAGTAATTAGAATTTGGTGTCAAATTTAATTTGACATTTGATCTTTTC
CTATATATTGCCCCATAGAGTCAGTTAACTCATTTTTATATTTCATAGATCAAATAAGAGAAATAACGGTATATT
AATCCCTCCAAAAAAAAAAAAACGGTATATTTACTAAAAAATCTAAGCCACGTAGGAGGATAACAGGATCCCCG
TAGGAGGATAACATCCAATCCAACCAATCACAACAATCCTGATGAGATAACCCACTTTAAGCCCACGCATCTGT
GGCACATCTACATTATCTAAATCACACATTCTTCCACACATCTGAGCCACACAAAAACCAATCCACATCTTTATC
ACCCATTCTATAAAAAATCACACTTTGTGAGTCTACACTTTGATTCCCTTCAAACACATACAAAGAGAAGAGACT
AATTAATTAATTAATCATCTTGAGAGAAAATGGAACGAGCTATACAAGGAAACGACGCTAGGGAACAAGCTAA
CAGTGAACGTTGGGATGGAGGATCAGGAGGTACCACTTCTCCCTTCAAACTTCCTGACGAAAGTCCGAGTTGG
ACTGAGTGGCGGCTACATAACGATGAGACGAATTCGAATCAAGATAATCCCCTTGGTTTCAAGGAAAGCTGGG
GTTTCGGGAAAGTTGTATTTAAGAGATATCTCAGATACGACAGGACGGAAGCTTCACTGCACAGAGTCCTTGG
ATCTTGGACGGGAGATTCGGTTAACTATGCAGCATCTCGATTTTTCGGTTTCGACCAGATCGGATGTACCTATA
GTATTCGGTTTCGAGGAGTTAGTATCACCGTTTCTGGAGGGTCGCGAACTCTTCAGCATCTCTGTGAGATGGCA

ATTCGGTCTAAGCAAGAACTGCTACAGCTTGCCCCAATCGAAGTGGAAAGTAATGTATCAAGAGGATGCCCTG
AAGGTACTCAAACCTTCGAAAAAGAAAGCGAGTAAGTCGAGGGCGAGCTCTAAGTTAAAATGCTTCTTCGTCT
CCTATTTATAATATGGTTTGTTATTGTTAATTTTGTTCTTGTAGAAGAGCTTAATTAATCGTTGTTGTTATGAAAT
ACTATTTGTATGAGATGAACTGGTGTAATGTAATTCATTTACATAAGTGGAGTCAGAATCAGAATGTTTCCTCC
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CACAACTTTATAAGTGGTTAATATAGCTCAAATATATGGTCAAGTTCAATAGATTAATAATGGAAATATCAGTT
ATCGAAATTCATTAACAATCAACTTAACGTTATTAACTACTAATTTTATATCATCCCCTTTGATAAATGATAGTAC
ACCAATTAGGAAGGAGCATGCTCGAGGCCTGGCTGGCCGAATTC

Figure 4B, SED ID NO: 19: Amino acid sequence of TBSV P19 suppressor of silencing

MERAIQGNDAREQANSERWDGGSGGTTSPFKLPDESPSWTEWRLHNDETNSNQDNPLGFKESWGFGKVVFKRY
LRYDRTEASLHRVLGSWTGDSVNYAASRFFGFDQIGCTYSIRFRGVSITVSGGSRTLQHLCEMAIRSKQELLQLAPIEV
ESNVSRGCPEGTQTFEKESE

Figure 4C: Representation of construct number 172



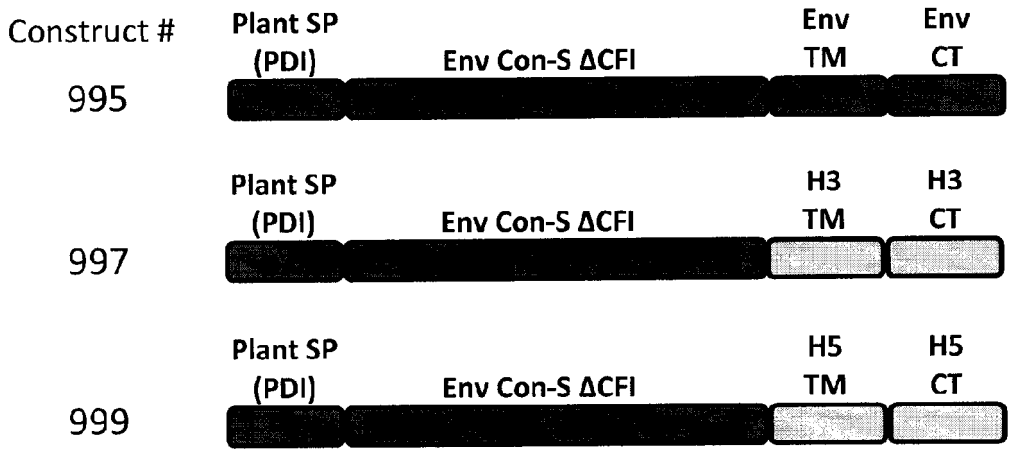

Construct #
Plant SP (PDI)
Env Con-S ΔCFI
Env TM
Env CT
995
Plant SP (PDI)
Env Con-S ΔCFI
H3 TM
H3 CT
997
Plant SP (PDI)
Env Con-S ΔCFI
H5 TM
H5 CT
999

Figure 5.

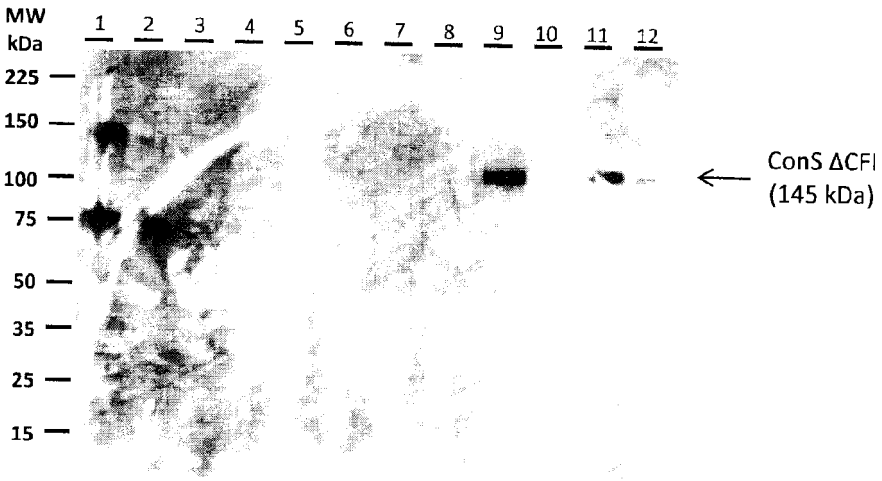

MW
kDa
1
2
3
4
5
6
7
8
9
10
11
12
225
150
100
75
50
35
25
15
ConS ΔCFI
(145 kDa)

Figure 6.

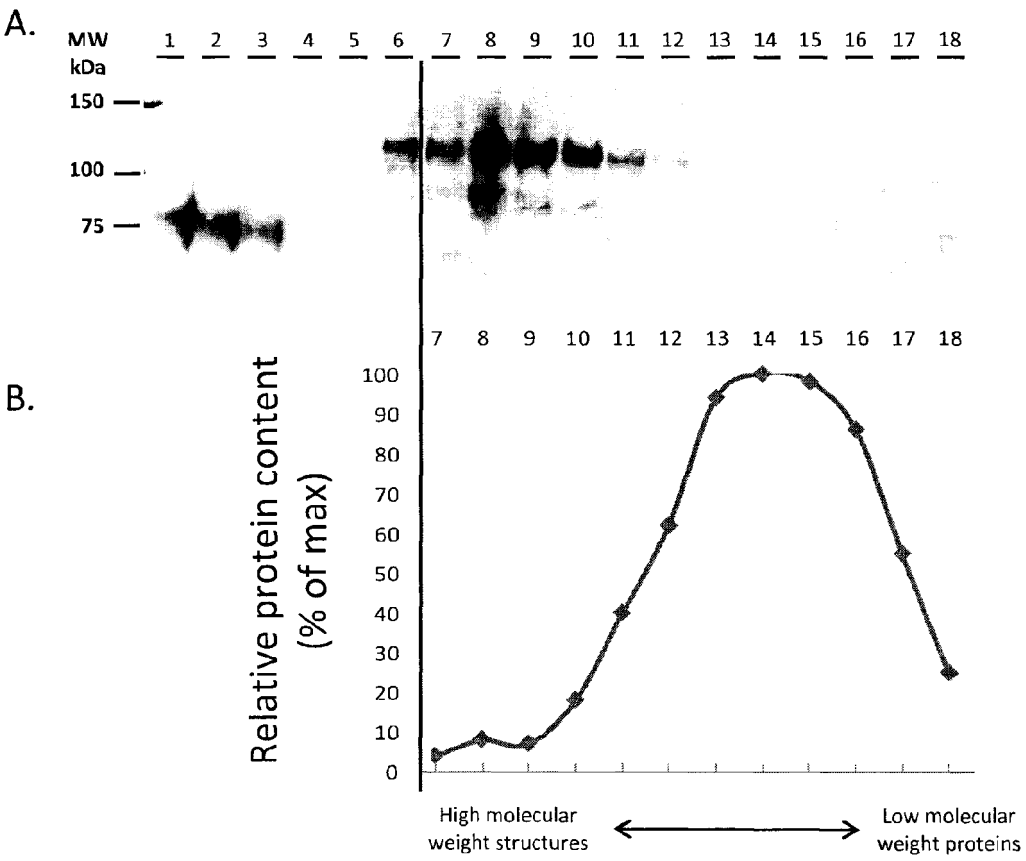

A.
MW
kDa
150
100
75
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
B.
7 8 9 10 11 12 13 14 15 16 17 18
Relative protein content
(% of max)
100
90
80
70
60
50
40
30
20
10
0
High molecular
weight structures
Low molecular
weight proteins

Figure 7.

Figure 8A

Schematic representation of construct number 1074

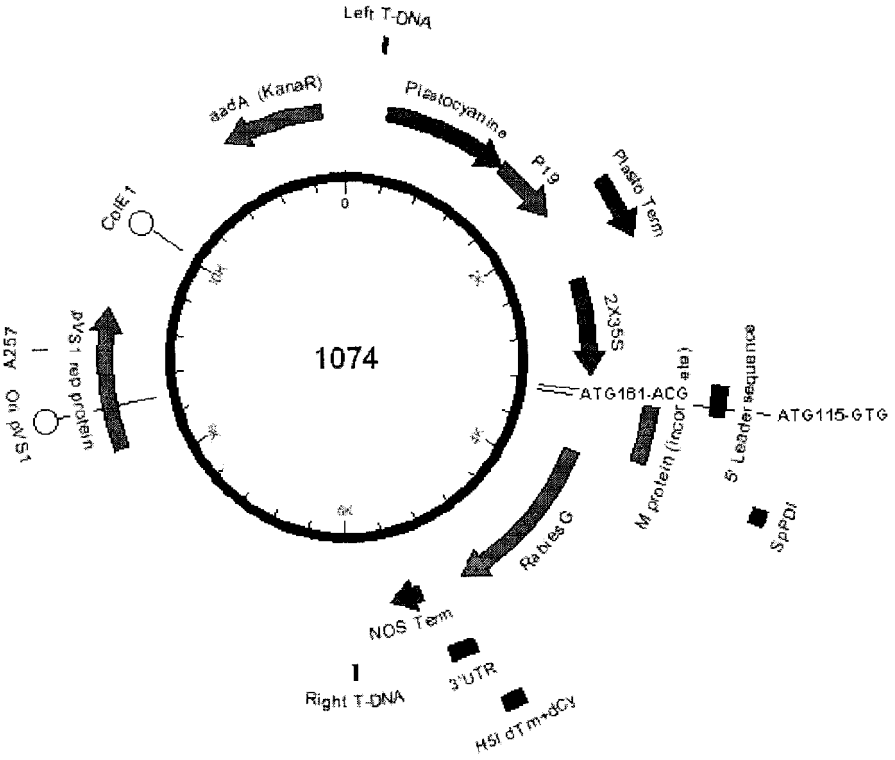


Figure 8B, SEQ ID NO:32

IF-RabG-S2+4.c

TCTCAGATCTTCGCCAAATTCCCTATTTACACGATACCAGAC

Figure 8C, SEQ ID NO:33

RabG+H5dTm.r

CTGTTGAATAAATTGACAGTATTTGATACTTCCCCCAGTTCGGGAGAC

Figure 8D, SEQ ID NO:34

Synthesized Rab G gene (corresponding to nt 3317-4891 from Genebank accession number EF206707) (Native signal peptide in bold, native transmembrane and cytosolic domains are underlined)

ATGGTTCCTCAGGCTCTCCTGTTTGTACCCCTTCTGGTTTTTCCATTGTGTTTTGGGAAATTC
CCTATTTACACGATACCAGACAAGCTTGGTCCCTGGAGCCCGATTGACATACATCACCTCAG
CTGCCCAAACAATTTGGTAGTGGAGGACGAAGGATGCACCAACCTGTCAGGGTTCTCCTAC
ATGGAACTTAAAGTTGGATACATCTTAGCCATAAAAATGAACGGGTTCACTTGCACAGGCGT
TGTGACGGAGGCTGAAACCTACACTAACTTCGTTGGTTATGTCACAACCACGTTCAAAAGAA
AGCATTTCCGCCCAACACCAGATGCATGTAGAGCCGCGTACAACTGGAAGATGGCCGGTGA
CCCCAGATATGAAGAGTCTCTACACAATCCGTACCCTGACTACCGCTGGCTTCGAACTGTAA
AAACCACCAAGGAGTCTCTCGTTATCATATCTCCAAGTGTGGCAGATTTGGACCCATATGAC
AGATCCCTTCACTCGAGGGTCTTCCCTAGCGGGAAGTGCTCAGGAGTAGCGGTGTCTTCTA
CCTACTGCTCCACTAACCACGATTACACCATTTGGATGCCCGAGAATCCGAGACTAGGGATG
TCTTGTGACATTTTTACCAATAGTAGAGGGAAGAGAGCATCCAAAGGGAGTGAGACTTGCGG
CTTTGTAGATGAAAGAGGCCTATATAAGTCTTTAAAAGGAGCATGCAAACTCAAGTTATGTGG
AGTTCTAGGACTTAGACTTATGGATGGAACATGGGTCGCGATGCAAACATCAAATGAAACCA
AATGGTGCCCTCCCGATCAGTTGGTGAACCTGCACGACTTTCGCTCAGACGAAATTGAGCA
CCTTGTTGTAGAGGAGTTGGTCAGGAAGAGAGAGGAGTGTCTGGATGCACTAGAGTCCATC
ATGACAACCAAGTCAGTGAGTTTCAGACGTCTCAGTCATTTAAGAAAACTTGTCCCTGGGTTT
GGAAAAGCATATACCATATTCAACAAGACCTTGATGGAAGCCGATGCTCACTACAAGTCAGT
CAGAACTTGGAATGAGATCCTCCCTTCAAAAGGGTGTTTAAGAGTTGGGGGGAGGTGTCAT
CCTCATGTGAACGGGGTGTTTTTCAATGGTATAATATTAGGACCTGACGGCAATGTCTTAATC
CCAGAGATGCAATCATCCCTCCTCCAGCAACATATGGAGTTGTTGGAATCCTCGGTTATCCC
CCTTGTGCACCCCCTGGCAGACCCGTCTACCGTTTTCAAGGACGGTGACGAGGCTGAGGAT
TTTGTTGAAGTTCACCTTCCCGATGTGCACAATCAGGTCTCAGGAGTTGACTTGGGTCTCCC
GAACTGGGGGAAGTATGTATTACTGAGTGCAGGGGCCCTGACTGCCTTGATGTTGATAATTT
TCCTGATGACATGTTGTAGAAGAGTCAATCGATCAGAACCTACGCAACACAATCTCAGAGGG
ACAGGGAGGGAGGTGTCAGTCACTCCCCAAAGCGGGAAGATCATATCTTCATGGGAATCAC
ACAAGAGTGGGGGTGAGACCAGACTGTGA

Figure 8E, SEQ ID NO:35

IF-H5dTm.c

CAAATACTGTCAATTTATTCAACAGTGGC

Figure 8F, SEQ ID NO:36

Construct 141 from left to right t-DNA (underlined).2X35S-CPMV-HT-PDISP-NOS expression system with Plastocyanine-P19-Plastocyanine silencing inhibitor expression cassette

TGGCAGGATATATTGTGGTGTAAACAAATTGACGCTTAGACAACTTAATAACACATTGCGGACGTTTTTA
ATGTACTGAATTAACGCCGAATCCCGGGCTGGTATATTTATATGTTGTCAAATAACTCAAAAACCATAAA
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TAAACATTAGAGTAAAGAAATATGGATGATAAGAACAAGAGTAGTGATATTTTGACAACAATTTTGTTGC
AACATTTGAGAAAATTTTGTTGTTCTCTCTTTTCATTGGTCAAAAACAATAGAGAGAGAAAAAGGAAGAG
GGAGAATAAAAACATAATGTGAGTATGAGAGAGAAAGTTGTACAAAAGTTGTACCAAAATAGTTGTACAA
ATATCATTGAGGAATTTGACAAAAGCTACACAAATAAGGGTTAATTGCTGTAAATAAATAAGGATGACGC
ATTAGAGAGATGTACCATTAGAGAATTTTTGGCAAGTCATTAAAAAGAAAGAATAAATTATTTTTAAAATT
AAAAGTTGAGTCATTTGATTAAACATGTGATTATTTAATGAATTGATGAAAGAGTTGGATTAAAGTTGTAT
TAGTAATTAGAATTTGGTGTCAAATTTAATTTGACATTTGATCTTTTCCTATATATTGCCCCATAGAGTCA
GTTAACTCATTTTTATATTTCATAGATCAAATAAGAGAAATAACGGTATATTAATCCCTCCAAAAAAAAAA
AACGGTATATTTACTAAAAAATCTAAGCCACGTAGGAGGATAACAGGATCCCCGTAGGAGGATAACATC
CAATCCAACCAATCACAACAATCCTGATGAGATAACCCACTTTAAGCCCACGCATCTGTGGCACATCTA
CATTATCTAAATCACACATTCTTCCACACATCTGAGCCACACAAAAACCAATCCACATCTTTATCACCCAT
TCTATAAAAAAATCACACTTTGTGAGTCTACACTTTGATTCCCTTCAAACACATACAAAGAGAAGAGACTA
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TAACAGTGAACGTTGGGATGGAGGATCAGGAGGTACCACTTCTCCCTTCAAACTTCCTGACGAAAGTCC
GAGTTGGACTGAGTGGCGGCTACATAACGATGAGACGAATTCGAATCAAGATAATCCCCTTGGTTTCAA
GGAAAGCTGGGGTTTCGGGAAAGTTGTATTTAAGAGATATCTCAGATACGACAGGACGGAAGCTTCACT
GCACAGAGTCCTTGGATCTTGGACGGGAGATTCGGTTAACTATGCAGCATCTCGATTTTTCGGTTTCGA
CCAGATCGGATGTACCTATAGTATTCGGTTTCGAGGAGTTAGTATCACCGTTTCTGGAGGGTCGCGAAC
TCTTCAGCATCTCTGTGAGATGGCAATTCGGTCTAAGCAAGAACTGCTACAGCTTGCCCCAATCGAAGT
GGAAAGTAATGTATCAAGAGGATGCCCTGAAGGTACTCAAACCTTCGAAAAAGAAAGCGAGTAAGTTAA
AATGCTTCTTCGTCTCCTATTTATAATATGGTTTGTTATTGTTAATTTTGTTCTTGTAGAAGAGCTTAATTA
ATCGTTGTTGTTATGAAATACTATTTGTATGAGATGAACTGGTGTAATGTAATTCATTTACATAAGTGGAG
TCAGAATCAGAATGTTTCCTCCATAACTAACTAGACATGAAGACCTGCCGCGTACAATTGTCTTATATTT
GAACAACTAAAATTGAACATCTTTTGCCACAACTTTATAAGTGGTTAATATAGCTCAAATATATGGTCAAG
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ATTTTATATCATCCCCTTTGATAAATGATAGTACACCAATTAGGAAGGAGCATGCTCGCCTAGGAGATTG
TCGTTTCCCGCCTTCAGTTTGCAAGCTGCTCTAGCCGTGTAGCCAATACGCAAACCGCCTCTCCCCGC
GCGTTGGGAATTACTAGCGCGTGTCGACAAGCTTGCATGCCGGTCAACATGGTGGAGCACGACACACT
TGTCTACTCCAAAAATATCAAAGATACAGTCTCAGAAGACCAAAGGGCAATTGAGACTTTTCAACAAAGG
GTAATATCCGGAAACCTCCTCGGATTCCATTGCCCAGCTATCTGTCACTTTATTGTGAAGATAGTGGAAA
AGGAAGGTGGCTCCTACAAATGCCATCATTGCGATAAAGGAAAGGCCATCGTTGAAGATGCCTCTGCC
GACAGTGGTCCCAAAGATGGACCCCCACCCACGAGGAGCATCGTGGAAAAAGAAGACGTTCCAACCA
CGTCTTCAAAGCAAGTGGATTGATGTGATAACATGGTGGAGCACGACACACTTGTCTACTCCAAAAATA
TCAAAGATACAGTCTCAGAAGACCAAAGGGCAATTGAGACTTTTCAACAAAGGGTAATATCCGGAAACC
TCCTCGGATTCCATTGCCCAGCTATCTGTCACTTTATTGTGAAGATAGTGGAAAAGGAAGGTGGCTCCT
ACAAATGCCATCATTGCGATAAAGGAAAGGCCATCGTTGAAGATGCCTCTGCCGACAGTGGTCCCAAA
GATGGACCCCCACCCACGAGGAGCATCGTGGAAAAAGAAGACGTTCCAACCACGTCTTCAAAGCAAGT
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GGGGAAACCCGAACCAAACCTTCTTCTAAACTCTCTCTCATCTCTCTTAAAGCAAACTTCTCTCTTGTCT
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TTGTCGGTGTGGTCTTGGGAAAAGAAAGCTTGCTGGAGGCTGCTGTTCAGCCCCATACATTACTTGTTA
CGATTCTGCTGACTTTCGGCGGGTGCAATATCTCTACTTCTGCTTGACGAGGTATTGTTGCCTGTACTT
CTTTCTTCTTCTTCTTGCTGATTGGTTCTATAAGAAATCTAGTATTTTCTTTGAAACAGAGTTTTCCCGTG
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CTCCTCAGCCAAAACGACACCCCCATCTGTCTATCCACTGGCCCCTGGATCTGCTGCCCAAACTAACTC
CATGGTGACCCTGGGATGCCTGGTCAAGGGCTATTTCCCTGAGCCAGTGACAGTGACCTGGAACTCTG
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TCAGTGACTGTCCCCTCCAGCACCTGGCCCAGCGAGACCGTCACCTGCAACGTTGCCCACCCGGCCA

GCAGCACCAAGGTGGACAAGAAAATTGTGCCCAGGGATTGTGGTTGTAAGCCTTGCATATGTACAGTC
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GATGTGGAGGTGCACACAGCTCAGACGCAACCCCGGGAGGAGCAGTTCAACAGCACTTTCCGCTCAG
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ACCATCACCATCACCATTAAAGGCCTATTTTCTTTAGTTTGAATTTACTGTTATTCGGTGTGCATTTCTAT
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CGGGAATTCGATATCAAGCTTATCGACCTGCAGATCGTTCAAACATTTGGCAATAAAGTTTCTTAAGATT
GAATCCTGTTGCCGGTCTTGCGATGATTATCATATAATTTCTGTTGAATTACGTTAAGCATGTAATAATTA
ACATGTAATGCATGACGTTATTTATGAGATGGGTTTTTATGATTAGAGTCCCGCAATTATACATTTAATAC
GCGATAGAAAACAAAATATAGCGCGCAAACTAGGATAAATTATCGCGCGCGGTGTCATCTATGTTACTA
GATCTCTAGAGTCTCAAGCTTGGCGCGCCCACGTGACTAGTGGCACTGGCCGTCGTTTTACAACGTCG
TGACTGGGAAAACCCTGGCGTTACCCAACTTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGC
GTAATAGCGAAGAGGCCCGCACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGCTA
GAGCAGCTTGAGCTTGGATCAGATTGTCGTTTCCCGCCTTCAGTTTAAACTATCAGTGTTTGACAGGAT
ATATTGGCGGGTAAACCTAAGAGAAAAGAGCGTTTA

Figure 8G

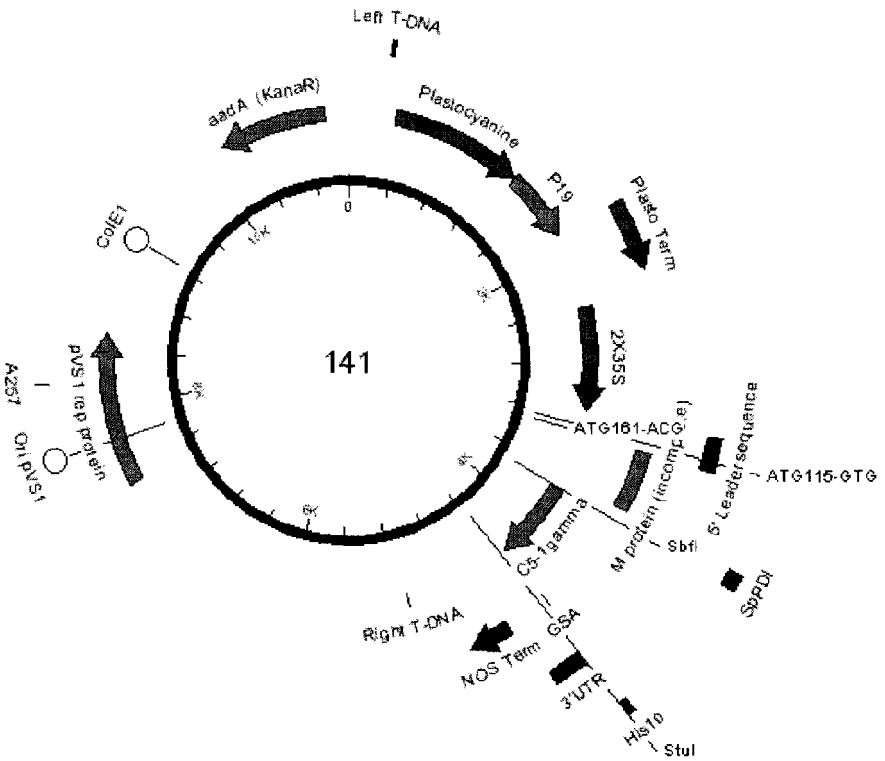


Figure 8H, SEQ ID NO:37

Expression cassette number 1074 from 2X35S promoter to NOS terminator.PDISP-Rab G -A/Indonesia/5/2005 H5 TM+CT is underlined.

GTCAACATGGTGGAGCACGACACACTTGTCTACTCCAAAAATATCAAAGATACAGTCTCAGAAGACCAA
AGGGCAATTGAGACTTTTCAACAAAGGGTAATATCCGGAAACCTCCTCGGATTCCATTGCCCAGCTATC
TGTCACTTTATTGTGAAGATAGTGGAAAAGGAAGGTGGCTCCTACAAATGCCATCATTGCGATAAAGGA
AAGGCCATCGTTGAAGATGCCTCTGCCGACAGTGGTCCCAAAGATGGACCCCCACCCACGAGGAGCA
TCGTGGAAAAAGAAGACGTTCCAACCACGTCTTCAAAGCAAGTGGATTGATGTGATAACATGGTGGAGC
ACGACACACTTGTCTACTCCAAAAATATCAAAGATACAGTCTCAGAAGACCAAAGGGCAATTGAGACTTT
TCAACAAAGGGTAATATCCGGAAACCTCCTCGGATTCCATTGCCCAGCTATCTGTCACTTTATTGTGAA
GATAGTGGAAAAGGAAGGTGGCTCCTACAAATGCCATCATTGCGATAAAGGAAAGGCCATCGTTGAAG
ATGCCTCTGCCGACAGTGGTCCCAAAGATGGACCCCCACCCACGAGGAGCATCGTGGAAAAAGAAGA
CGTTCCAACCACGTCTTCAAAGCAAGTGGATTGATGTGATATCTCCACTGACGTAAGGGATGACGCACA
ATCCCACTATCCTTCGCAAGACCCTTCCTCTATATAAGGAAGTTCATTTCATTTGGAGAGGTATTAAAAT
CTTAATAGGTTTTGATAAAAGCGAACGTGGGGAAACCCGAACCAAACCTTCTTCTAAACTCTCTCTCATC
TCTCTTAAAGCAAACTTCTCTCTTGTCTTTCTTGCGTGAGCGATCTTCAACGTTGTCAGATCGTGCTTCG
GCACCAGTACAACGTTTTCTTTCACTGAAGCGAAATCAAAGATCTCTTTGTGGACACGTAGTGCGGCGC
CATTAAATAACGTGTACTTGTCCTATTCTTGTCGGTGTGGTCTTGGGAAAAGAAAGCTTGCTGGAGGCT
GCTGTTCAGCCCCATACATTACTTGTTACGATTCTGCTGACTTTCGGCGGGTGCAATATCTCTACTTCTG
CTTGACGAGGTATTGTTGCCTGTACTTCTTTCTTCTTCTTCTTGCTGATTGGTTCTATAAGAAATCTAGTA
TTTTCTTTGAAACAGAGTTTTCCCGTGGTTTTCGAACTTGGAGAAAGATTGTTAAGCTTCTGTATATTCTG
CCCAAATTTGTCGGGCCCATGGCGAAAAACGTTGCGATTTTCGGCTTATTGTTTTCTCTTCTTGTGTTGG
TTCCTTCTCAGATCTTCGCCAAATTCCCTATTTACACGATACCAGACAAGCTTGGTCCCTGGAGCCCGA
TTGACATACATCACCTCAGCTGCCCAAACAATTTGGTAGTGGAGGACGAAGGATGCACCAACCTGTCA
GGGTTCTCCTACATGGAACTTAAAGTTGGATACATCTTAGCCATAAAAATGAACGGGTTCACTTGCACA
GGCGTTGTGACGGAGGCTGAAACCTACACTAACTTCGTTGGTTATGTCACAACCACGTTCAAAAGAAAG
CATTTCCGCCCAACACCAGATGCATGTAGAGCCGCGTACAACTGGAAGATGGCCGGTGACCCCAGATA
TGAAGAGTCTCTACACAATCCGTACCCTGACTACCGCTGGCTTCGAACTGTAAAAACCACCAAGGAGTC
TCTCGTTATCATATCTCCAAGTGTGGCAGATTTGGACCCATATGACAGATCCCTTCACTCGAGGGTCTT
CCCTAGCGGGAAGTGCTCAGGAGTAGCGGTGTCTTCTACCTACTGCTCCACTAACCACGATTACACCA
TTTGGATGCCCGAGAATCCGAGACTAGGGATGTCTTGTGACATTTTTACCAATAGTAGAGGGAAGAGAG
CATCCAAAGGGAGTGAGACTTGCGGCTTTGTAGATGAAAGAGGCCTATATAAGTCTTTAAAAGGAGCAT
GCAAACTCAAGTTATGTGGAGTTCTAGGACTTAGACTTATGGATGGAACATGGGTCGCGATGCAAACAT
CAAATGAAACCAAATGGTGCCCTCCCGATCAGTTGGTGAACCTGCACGACTTTCGCTCAGACGAAATTG
AGCACCTTGTTGTAGAGGAGTTGGTCAGGAAGAGAGAGGAGTGTCTGGATGCACTAGAGTCCATCATG
ACAACCAAGTCAGTGAGTTTCAGACGTCTCAGTCATTTAAGAAAACTTGTCCCTGGGTTTGGAAAAGCA
TATACCATATTCAACAAGACCTTGATGGAAGCCGATGCTCACTACAAGTCAGTCAGAACTTGGAATGAG
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CATATGGAGTTGTTGGAATCCTCGGTTATCCCCCTTGTGCACCCCCTGGCAGACCCGTCTACCGTTTTC
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Figure 8I, SEQ ID NO:38

Amino acid sequence ofPDISP-Rab G- A/Indonesia/5/2005 H5 TM+CT

MAKNVAIFGLLFSLLVLVPSQIFAKFPIYTIPDKLGPWSPIDIHHLSCPNNLVVEDEGCTNL
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YNWKMAGDPRYEESLHNPYPDYRWLRTVKTTKESLVIISPSVADLDPYDRSLHSRVFP
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ESSVIPLVHPLADPSTVFKDGDEAEDFVEVHLPDVHNQVSGVDLGLPNWGKYQILSIYS
TVASSLALAIMMAGLSLWMCSNGSLQCRICI*

Figure 8J, SEQ ID NO: 39

Construct 144 from left to right t-DNA (underlined).2X35S-CPMV-HT-PDISP-NOS into BeYDV + replicaseexpression system with Plastocyanine-P19-Plastocyanine silencing inhibitor expression cassette

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Figure 8K

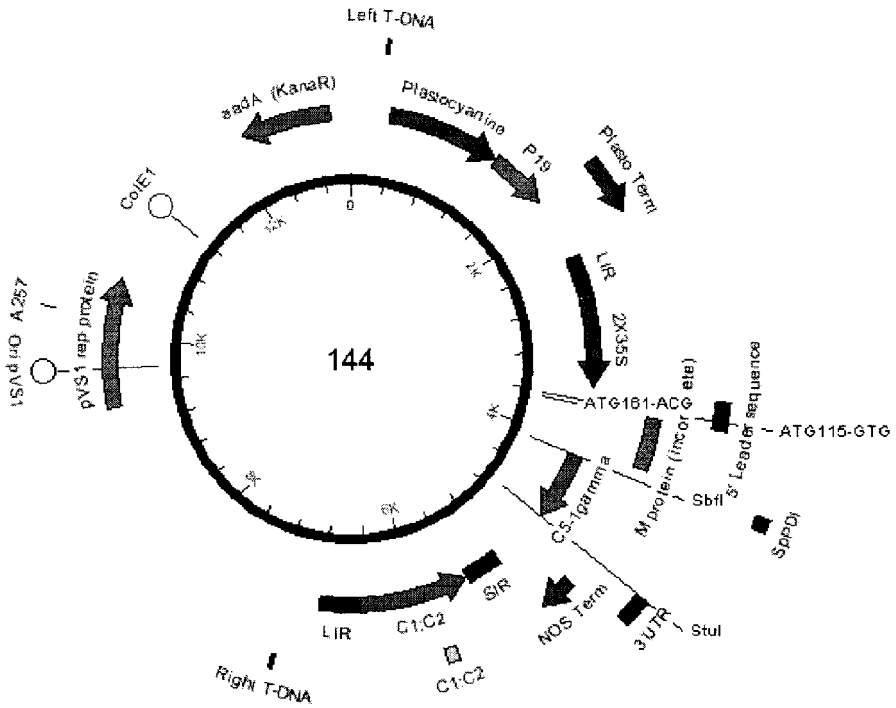


Figure 8L, SEQ ID NO:40

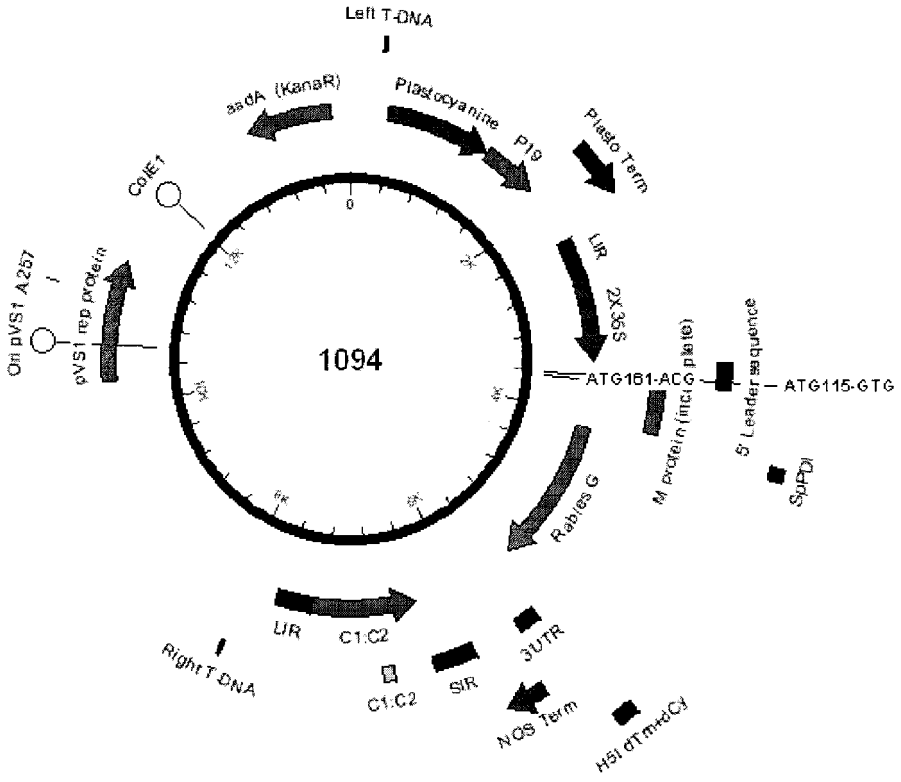
Expression cassette number 1094 from right to left BeYDV LIR.PDISP-Rab G - A/Indonesia/5/2005 H5 TM+CT is underlined.

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Figure 8M

Schematic representation of construct number 1094



Rabies G

Western blot on biomasses

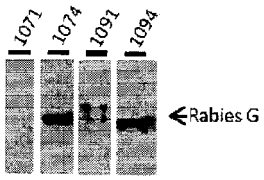


Figure 8N

Size exclusion chromatography on concentrated and clarified extracts

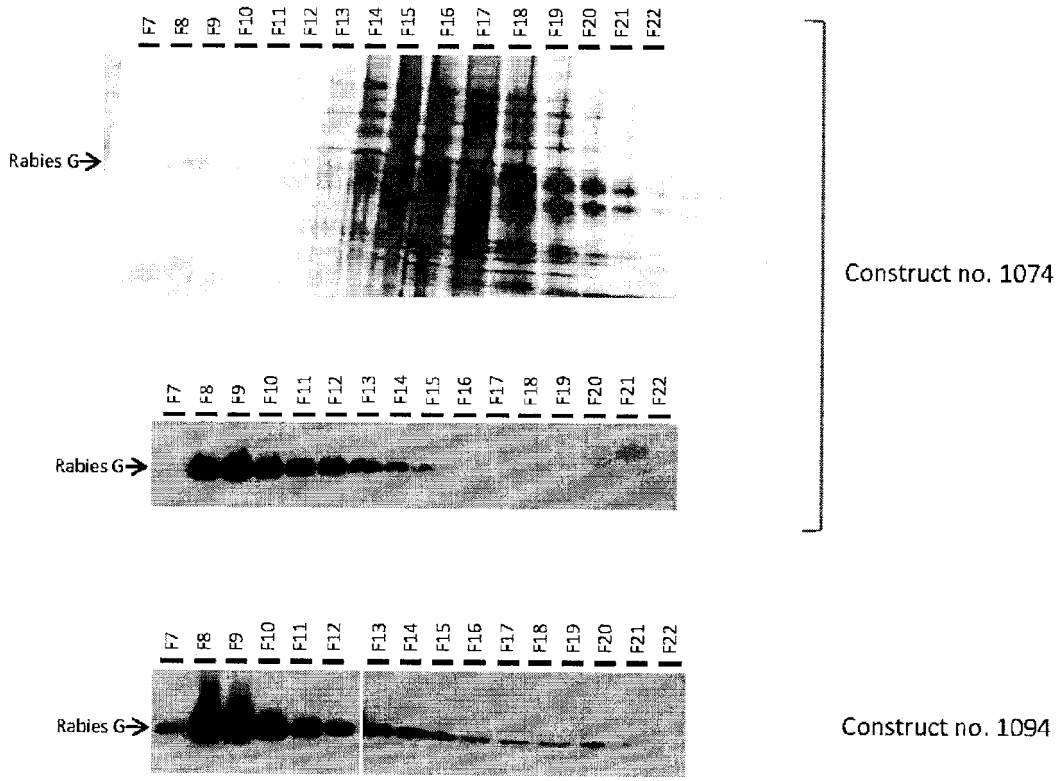


Figure 8O

Primary antibody: Santa Cruz SE-57995 0.25µg/µL
Secondary antibody: Goat anti Mouse, JIR, 115-035-146 (1/10000)

Rabies G

Purification (1074)

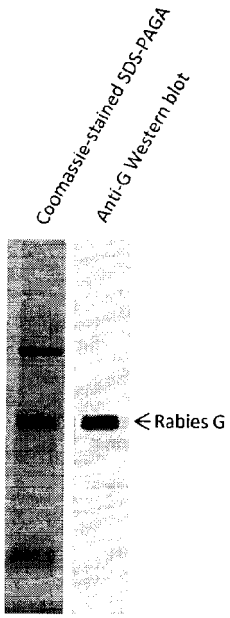


Figure 9A

Transmission electron microscopy on purified VLP (1074) (the bar is 100 nm)

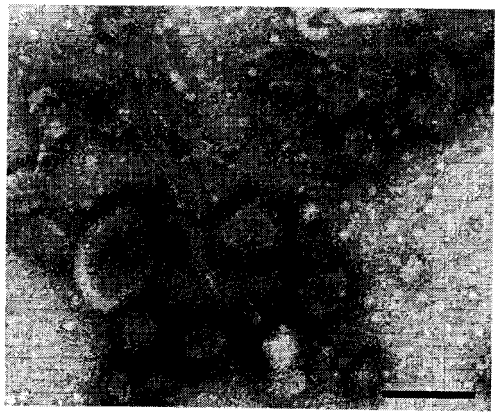


Figure 9B

Figure 10A, SEQ ID NO: 20

IF-wtSp-VZVgE.c

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Figure 10B, SEQ ID NO: 21

IF-H5dTm+VZVgE.r

AATTGACAGTATTTGTCGTAGAAGTGGTGACGTTCCGGGGTTTACG

Figure 10C, SEQ ID NO: 22

synthesized VZV gE gene (corresponding to nt 3477-5348 from Genebank accession number AY013752.1) (Native signal peptide in bold, native transmembrane and cytosolic domains are underlined)

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AGATAAGACCCGGTGA

Figure 10D, SEQ ID NO: 23

VZVgE+H5dTm.c

GCCACTGTTGAATAAATTGACAGTATTTGTCGTAGAAGTGGTGACG

Figure 10E, SEQ ID NO: 24

Expression cassette number 946, from PacI (upstream of the promoter) to AscI (immediately downstream of the NOS terminator).VZV gE-A/Indonesia/5/2005 H5 TM+CT is underlined.

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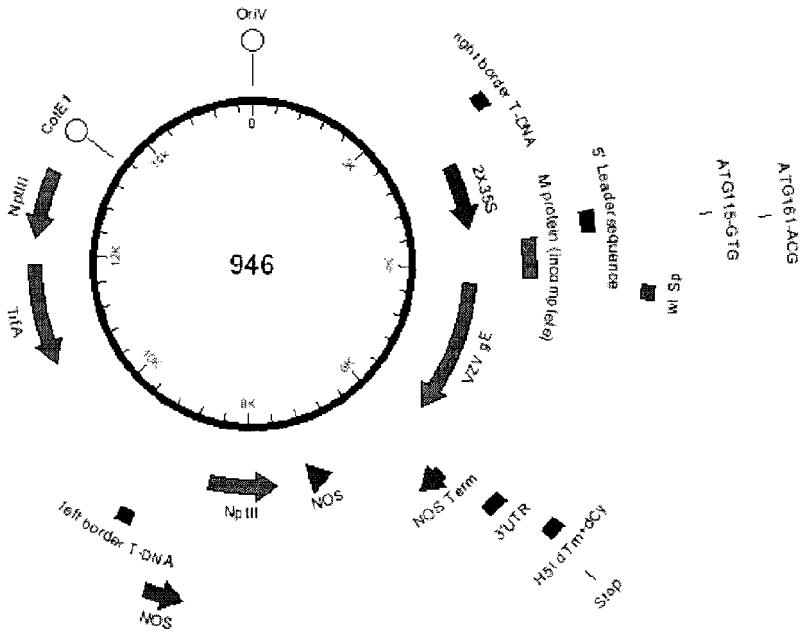
Figure 10F, SEQ ID NO:25

Amino acid sequence of VZV gE- A/Indonesia/5/2005 H5 TM+CT

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RKAYDHNSPYIWPRNDYDGFLENAHEHHGVYNQGRGIDSGERLMQPTQMSAQEDLGDDTGIHVIPTLNGDD
RHKIVNVDQRQYGDVFKGDLNPKPQGQRLIEVSVEENHPFTLRAPIQRIYGVRYTETWSFLPSLTCTGDAA
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TFSLAMHLQYKIHEAPFDLLLEWLYVPIDPTCQPMRLYSTCLYHPNAPQCLSHMNSGCTFTSPHLAQRVAS
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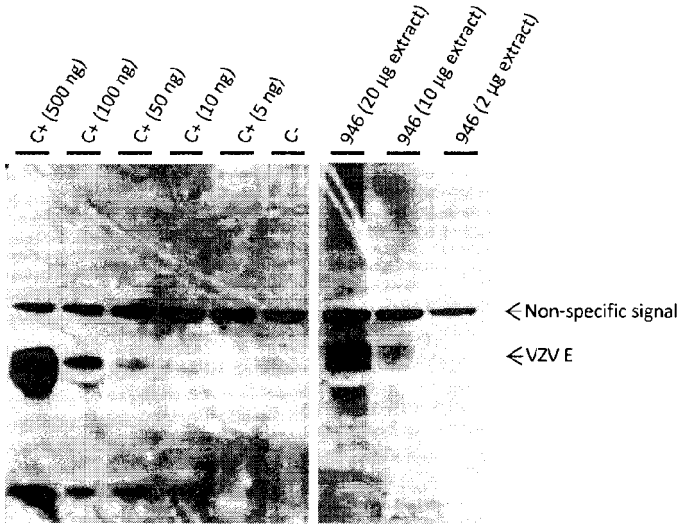
Figure 10G

Schematic representation of construct number 946



Varicella Zoster virus (VZV)

Figure 11A



Positive control (C+): VZV gE, Abcam, ab43050
Negative control (C-): Extract from mock-infiltrated leaves
Primary antibody: Mouse mAb anti-VZVgE protein, abcam, ab52549 (1 µg/ml)
Secondary antibody: Goat anti-mouse, JIR, 115-035-146 (1/10000)

Figure 11B

Size exclusion chromatography on crude extracts (946)

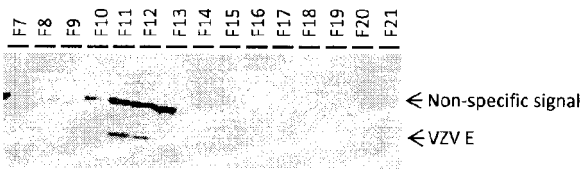


Figure 12A

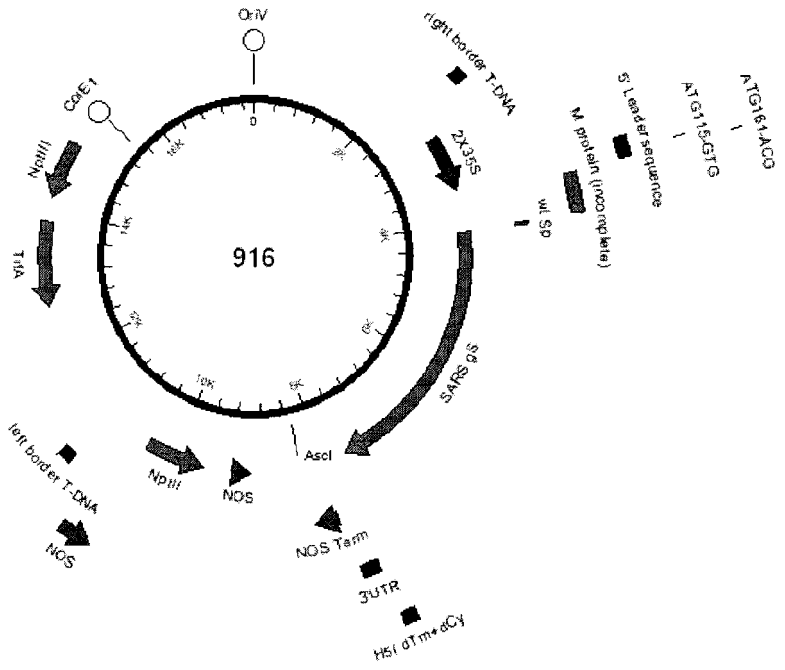


Figure 12B, SEQ ID NO:26

IF-wtSp-SARSgS.c

TGCCCAAATTTGTCGGGCCCATGTTTATTTTCTTATTATTTCTTACTCTC

Figure 12C, SEQ ID NO:27

IF-H5dTm+SARSgS.r

AATTGACAGTATTTGAGGCCATTTAATATATTGCTCATATTTTCC

Figure 12D, SEQ ID NO:28

synthesized SARS gS gene (corresponding to nt 21492-25259 from Genebank accession number AY278741.1) (Native signal peptide in bold, native transmembrane and cytosolic domains are underlined)

ATGTTTATTTTCTTATTATTTCTTACTCTCACTAGTGGTAGTGACCTTGACCGGTGCACCACTTTTGATG
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ATTAATCATACGTTTGGCAACCCTGTCATACCTTTTAAGGATGGTATTTATTTTGCTGCCACAGAGAAAT
CAAATGTTGTCCGTGGTTGGGTTTTTGGTTCTACCATGAACAACAAGTCACAGTCGGTGATTATTATTAA
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Figure 12E, SEQ ID NO:29

SARSgS+H5dTm.c

ATATATTAAATGGCCTCAAATACTGTCAATTTATTCAACAGTG

Figure 12F, SEQ ID NO:30

Expression cassette number 916, from PacI (upstream of the promoter) to AscI (immediately downstream of the NOS terminator).SARS gS-A/Indonesia/5/2005 H5 TM+CT underlined.

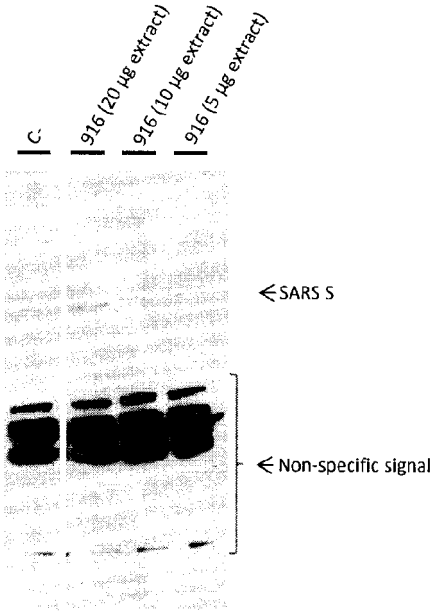
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TTCGGTGTGCATTTCTATGTTTGGTGAGCGGTTTTCTGTGCTCAGAGTGTGTTTATTTTATGTAATTTAAT
TTCTTTGTGAGCTCCTGTTTAGCAGGTCGTCCCTTCAGCAAGGACACAAAAAGATTTTAATTTTATTAAAA
AAAAAAAAAAAAAAGACCGGGAATTCGATATCAAGCTTATCGACCTGCAGATCGTTCAAACATTTGGCAA
TAAAGTTTCTTAAGATTGAATCCTGTTGCCGGTCTTGCGATGATTATCATATAATTTCTGTTGAATTACGT
TAAGCATGTAATAATTAACATGTAATGCATGACGTTATTTATGAGATGGGTTTTTATGATTAGAGTCCCG
CAATTATACATTTAATACGCGATAGAAAACAAAATATAGCGCGCAAACTAGGATAAATTATCGCGCGCG
GTGTCATCTATGTTACTAGATCTCTAGAGTCTCAAGCTTGGCGCGCC

Figure 12G, SEQ ID NO:31

Amino acid sequence of SARS gS- A/Indonesia/5/2005 H5 TM+CT

MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQDLFL
PFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSVIIINNS
TNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLDVSEKSGNF
KHLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINITNFRAILTAFSPA
QDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAELKCSVKSFEIDKGIY
QTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWERKKISNCVADYSVLYNST
FFSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDFM
GCVLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDISNVPFSPDGKPCTPPALNCY
WPLNDYGFYTTTGIGYQPYRVVVLSFELLNAPATVCGPKLSTDLIKNQCVNFNFNGLTG
TGVLTPSSKRFQPFQQFGRDVSDFTDSVRDPKTSEILDISPCSFGGVSVITPGTNASSE
VAVLYQDVNCTDVSTAIHADQLTPAWRIYSTGNNVFQTQAGCLIGAEHVDTSYECDIPI
GAGICASYHTVSLLRSTSQKSIVAYTMSLGADSSIAYSNNTIAIPTNFSISITTEVMPVSMA
KTSVDCNMYICGDSTECANLLLQYGSFCTQLNRALSGIAAEQDRNTREVFAQVKQMYK
TPTLKYFGGFNFSQILPDPLKPTKRSFIEDLLFNKVTLADAGFMKQYGECLGDINARDLI
CAQKFNGLTVLPPLLTDDMIAAYTAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGI
GVTQNVLYENQKQIANQFNKAISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSS
NFGAISSVLNDILSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKM
SECVLGQSKRVDFCGKGYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKA
YFPREGVFVFNGTSWFITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSF
KEELDKYFKNHTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQ
YIKWPQILSIYSTVASSLALAIMMAGLSLWMCSNGSLQCRICI*



Negative control (C-): Extract from mock-infiltrated leaves
Primary antibody: Rabbit IgG1 polyclonal, Imgenex, IMG-690 (2 µg/ml)
Secondary antibody: Mouse Anti-Rabbit IgG, JIR, 111-035-144 (1/10000)

Figure 12H

Figure 13A (SEQ ID NO: 43)

IF-Opt_EboGP.s2+4c

TCTCAGATCTTCGCCATCCCTCTGGGAGTGATCCACAATTCGACT

Figure 13B (SEQ ID NO: 44)

H5iTMCT+Opt_EboGP.r

TTGAATAAATTGACAGTATCTGGCGCCATCCGGTCCACCAGTTATCGT

Figure 13C (SEQ ID NO: 45)

Optimized synthesized GPgene (corresponding to nt 6039-8069 from Genbank accession number AY354458 for wild-type gene sequence.Gene was optimized for codon usage and GC content, deletion of cryptic splice sites, Shine-Delgarno sequences, RNA destabilizing sequence and prokaryotic ribosome entry sites)(Native signal peptide in bold, native transmembrane and cytosolic domains are underlined)

ATGGGGGTGACCGGAATCCTTCAGCTCCCTCGCGATAGGTTCAAACGGACGTCCTTCTTTCTCTGG
GTGATCATCCTGTTTCAGCGCACCTTCTCAATCCCTCTGGGAGTGATCCACAATTCGACTCTCCAGGTG
AGCGAGGTCGACAAACTCGTGTGCCGCGATAAGTTGTCCAGCACCAATCAGCTCAGAAGTGTTGGCCTCA
ACCTGGAGGGGAATGGGGTCGCCACAGACGTGCCATCCGCGACCAAGCGCTGGGGCTTTCGGTCGGGTG
TTCCCCCTAAAGTCGTGAATTACGAGGCCGGGGAGTGGGCTGAAAACTGCTACAACCTGGAAATCAAGA
AACCCGACGGCAGCGAGTGTCTGCCCGCGGCCCCAGACGGGATCAGGGGTTTCCCGAGGTGCCGGTACG
TGCACAAGGTCTCGGGAACCGGCCCGTGCGCCGGCGATTTTGCCTTCCATAAGGAGGGCGCATTCTTTCT
CTACGATAGACTGGCCTCCACGGTCATCTATCGCGGCACCACCTTCGCGGAGGGGGTGGTGGCATTCCTC
ATCCTGCCGCAGGCTAAGAAAGATTTCTTCAGCTCCCACCCTCTCAGGGAACCAGTCAACGCCACAGAGG
ATCCCTCCTCGGGATATTACAGCACCACAATTCGGTACCAGGCCACAGGCTTCGGGACCAATGAGACTGA
GTACCTGTTCGAGGTGGACAACCTAACATACGTGCAGCTCGAATCGCGGTTTACCCCGCAGTTCCTTTTGC
AACTTAACGAGACGATCTATACCAGTGGTAAACCGAGCAACACGACCGGGAAGCTCATCTGGAAAGTAA
ACCCGGAGATCGACACCACGATTGGAGAGTGGGCTTTCTGGGAAACCAAGAAAAACCTGACCCGGAAGA
TCAGGTCGGAGGAGTTGAGCTTCACTGCCGTCTCCAATAGAGCAAAAAACATCAGCGGCCAGAGCCCTG
CCCGGACTTCCAGCGACCCAGGTACCAACACCACGACAGAGGACCACAAGATTATGGCCTCGGAGAATT
CCTCTGCAATGGTCCAGGTGCATAGCCAGGGGCGCGAAGCTGCCGTCTCGCACCTGACAACCTTGGCAAC
GATTTCCACCAGCCCACAACCACCCACGACAAAGCCCGGGCCCGACAACTCCACCCATAATACCCCGGTC
TATAAGCTGGACATTTCCGAAGCTACGCAGGTGGAGCAGCACCACCGGAGGACCGACAACGACTCAACA
GCTAGCGATACCCCTCCCGCCACCACGGCAGCGGGCCCACCCAAGGCTGAGAACACCAATACGAGCAAG
GGCACCGACCTCCTGGACCCCGCGACTACCACGAGCCCCCAGAATCACAGCGAAACGGCGGGCAACAAC
AACACACACCATCAGGATACTGGGGAGGAGTCGGCCTCCAGCGGAAAACTGGGCCTGATCACAAACACC
ATAGCCGGGGTCGCCGGGCTGATCACTGGAGGCCGGAGGGCACGCAGAGAGGCCATTGTGAACGCCCAG
CCCAAATGCAACCCAAACCTCCACTACTGGACCACGCAGGACGAGGGGGCCGCTATCGGCCTGGCCTGG
ATCCCATACTTTGGGCCCGCCGCTGAGGGCATATACACGGAGGGCCTCATGCACAATCAGGACGGACTG
ATCTGCGGACTCCGCCAGCTTGCCAACGAGACCACTCAGGCGTTGCAGCTGTTTCTGCGGGCCACTACCG
AGCTCAGGACGTTCAGCATTCTGAATCGGAAGGCAATCGATTTCCTACTCCAGCGGTGGGGCGGGACATG
CCACATCCTGGGACCCGATTGTTGCATCGAGCCCCACGACTGGACCAAGAACATTACAGATAAAATCGA
CCAGATCATTCATGATTTCGTGGACAAGACACTGCCGGACCAGGGGGACAACGATAACTGGTGGACCGG

ATGGCGCCAGTGGATCCCAGCCGGGATTGGCGTGACAGGTGTCATTATCGCCGTGATCGCCCTGTTTTGC
ATTTGCAAATTCGTTTTCTAG

Figure 13D (SEQ ID NO: 46)

Opt_EboGP+H5iTMCT.c

GGATGGCGCCAGATACTGTCAATTTATTCAACAGTGGCGAGTTCC

Figure 13E

Schematic representation of construct 1192.SacII and StuI restriction enzyme sites used for plasmid linearization are annotated on the representation.

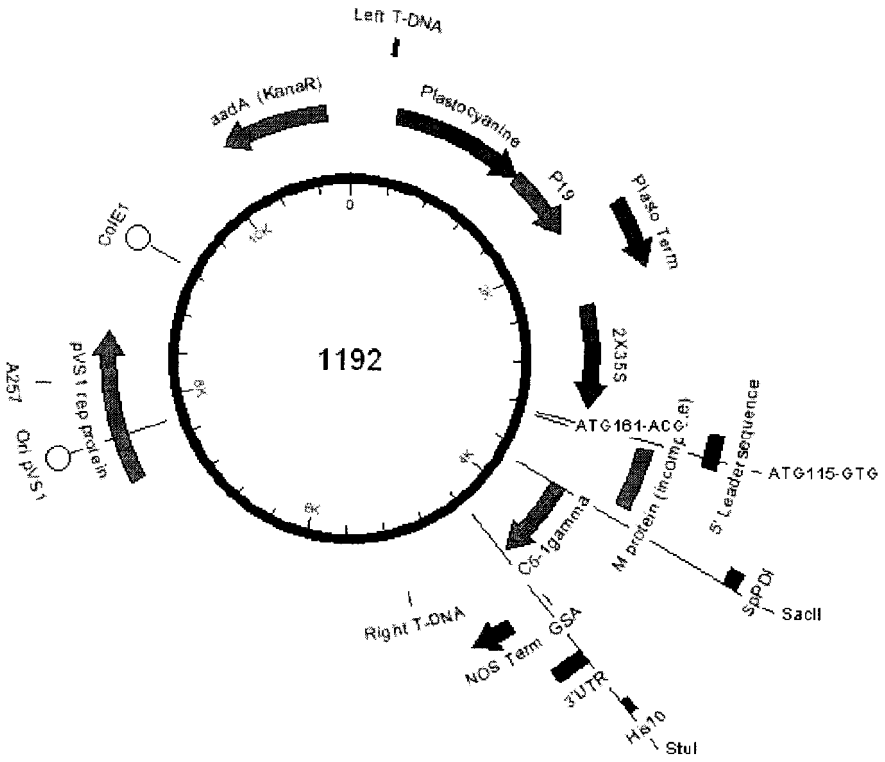


Figure 13F, SEQ ID NO: 47

Construct 1192 from left to right t-DNA borders (underlined).2X35S/CPMV-HT/PDISP/NOS with Plastocyanine-P19-Plastocyanine silencing inhibitor expression cassette

TGGCAGGATATATTGTGGTGTAAACAAATTGACGCTTAGACAACTTAATAACACATTGCGGACGTTTTTA
ATGTACTGAATTAACGCCGAATCCCGGGCTGGTATATTTATATGTTGTCAAATAACTCAAAAACCATAAA
AGTTTAAGTTAGCAAGTGTGTACATTTTTACTTGAACAAAAATATTCACCTACTACTGTTATAAATCATTA
TTAAACATTAGAGTAAAGAAATATGGATGATAAGAACAAGAGTAGTGATATTTTGACAACAATTTTGTTG
CAACATTTGAGAAAATTTTGTTGTTCTCTCTTTTCATTGGTCAAAAACAATAGAGAGAGAAAAAGGAAGA
GGGAGAATAAAAACATAATGTGAGTATGAGAGAGAAAGTTGTACAAAAGTTGTACCAAAATAGTTGTAC
AAATATCATTGAGGAATTTGACAAAAGCTACACAAATAAGGGTTAATTGCTGTAAATAAATAAGGATGA
CGCATTAGAGAGATGTACCATTAGAGAATTTTTGGCAAGTCATTAAAAAGAAAGAATAAATTATTTTTAA
AATTAAAAGTTGAGTCATTTGATTAAACATGTGATTATTTAATGAATTGATGAAAGAGTTGGATTAAAGT
TGTATTAGTAATTAGAATTTGGTGTCAAATTTAATTTGACATTTGATCTTTTCCTATATATTGCCCCATAGA
GTCAGTTAACTCATTTTTATATTTCATAGATCAAATAAGAGAAATAACGGTATATTAATCCCTCCAAAAA
AAAAAAACGGTATATTTACTAAAAAATCTAAGCCACGTAGGAGGATAACAGGATCCCCGTAGGAGGATA
ACATCCAATCCAACCAATCACAACAATCCTGATGAGATAACCCACTTTAAGCCCACGCATCTGTGGCACA
TCTACATTATCTAAATCACACATTCTTCCACACATCTGAGCCACACAAAAACCAATCCACATCTTTATCAC
CCATTCTATAAAAAATCACACTTTGTGAGTCTACACTTTGATTCCCTTCAAACACATACAAAGAGAAGAG
ACTAATTAATTAATTAATCATCTTGAGAGAAAATGGAACGAGCTATACAAGGAAACGACGCTAGGGAAC
AAGCTAACAGTGAACGTTGGGATGGAGGATCAGGAGGTACCACTTCTCCCTTCAAACTTCCTGACGAAAG
TCCGAGTTGGACTGAGTGGCGGCTACATAACGATGAGACGAATTCGAATCAAGATAATCCCCTTGGTTTC
AAGGAAAGCTGGGGTTTCGGGAAAGTTGTATTTAAGAGATATCTCAGATACGACAGGACGGAAGCTTCA
CTGCACAGAGTCCTTGGATCTTGGACGGGAGATTCGGTTAACTATGCAGCATCTCGATTTTTCGGTTTCGA
CCAGATCGGATGTACCTATAGTATTCGGTTTCGAGGAGTTAGTATCACCGTTTCTGGAGGGTCGCGAACT
CTTCAGCATCTCTGTGAGATGGCAATTCGGTCTAAGCAAGAACTGCTACAGCTTGCCCCAATCGAAGTGG
AAAGTAATGTATCAAGAGGATGCCCTGAAGGTACTCAAACCTTCGAAAAAGAAAGCGAGTAAGTTAAAA
TGCTTCTTCGTCTCCTATTTATAATATGGTTTGTTATTGTTAATTTTGTTCTTGTAGAAGAGCTTAATTAAT
CGTTGTTGTTATGAAATACTATTTGTATGAGATGAACTGGTGTAATGTAATTCATTTACATAAGTGGAGTC
AGAATCAGAATGTTTCCTCCATAACTAACTAGACATGAAGACCTGCCGCGTACAATTGTCTTATATTTGA
ACAACTAAAATTGAACATCTTTTGCCACAACTTTATAAGTGGTTAATATAGCTCAAATATATGGTCAAGTT
CAATAGATTAATAATGGAAATATCAGTTATCGAAATTCATTAACAATCAACTTAACGTTATTAACTACTA
ATTTTATATCATCCCCTTTGATAAATGATAGTACACCAATTAGGAAGGAGCATGCTCGCCTAGGAGATTG
TCGTTTCCCGCCTTCAGTTTGCAAGCTGCTCTAGCCGTGTAGCCAATACGCAAACCGCCTCTCCCCGCGCG
TTGGGAATTACTAGCGCGTGTCGACAAGCTTGCATGCCGGTCAACATGGTGGAGCACGACACACTTGTCT
ACTCCAAAAATATCAAAGATACAGTCTCAGAAGACCAAAGGGCAATTGAGACTTTTCAACAAAGGGTAA
TATCCGGAAACCTCCTCGGATTCCATTGCCCAGCTATCTGTCACTTTATTGTGAAGATAGTGGAAAAGGA
AGGTGGCTCCTACAAATGCCATCATTGCGATAAAGGAAAGGCCATCGTTGAAGATGCCTCTGCCGACAGT
GGTCCCAAAGATGGACCCCCACCCACGAGGAGCATCGTGGAAAAAGAAGACGTTCCAACCACGTCTTCA
AAGCAAGTGGATTGATGTGATAACATGGTGGAGCACGACACACTTGTCTACTCCAAAAATATCAAAGAT
ACAGTCTCAGAAGACCAAAGGGCAATTGAGACTTTTCAACAAAGGGTAATATCCGGAAACCTCCTCGGA
TTCCATTGCCCAGCTATCTGTCACTTTATTGTGAAGATAGTGGAAAAGGAAGGTGGCTCCTACAAATGCC
ATCATTGCGATAAAGGAAAGGCCATCGTTGAAGATGCCTCTGCCGACAGTGGTCCCAAAGATGGACCCC
CACCCACGAGGAGCATCGTGGAAAAAGAAGACGTTCCAACCACGTCTTCAAAGCAAGTGGATTGATGTG
ATATCTCCACTGACGTAAGGGATGACGCACAATCCCACTATCCTTCGCAAGACCCTTCCTCTATATAAGG
AAGTTCATTTCATTTGGAGAGGTATTAAAATCTTAATAGGTTTTGATAAAAGCGAACGTGGGGAAACCCG
AACCAAACCTTCTTCTAAACTCTCTCTCATCTCTCTTAAAGCAAACTTCTCTCTTGTCTTTCTTGCGTGAGC
GATCTTCAACGTTGTCAGATCGTGCTTCGGCACCAGTACAACGTTTTCTTTCACTGAAGCGAAATCAAAG
ATCTCTTTGTGGACACGTAGTGCGGCGCCATTAAATAACGTGTACTTGTCCTATTCTTGTCGGTGTGGTCT
TGGGAAAAGAAAGCTTGCTGGAGGCTGCTGTTCAGCCCCATACATTACTTGTTACGATTCTGCTGACTTTC
GGCGGGTGCAATATCTCTACTTCTGCTTGACGAGGTATTGTTGCCTGTACTTCTTTCTTCTTCTTCTTGCTG
ATTGGTTCTATAAGAAATCTAGTATTTTCTTTGAAACAGAGTTTTCCCGTGGTTTTCGAACTTGGAGAAAG
ATTGTTAAGCTTCTGTATATTCTGCCCAAATTTGTCGGGCCCATGGCGAAAAACGTTGCGATTTTCGGCTT

ATTGTTTTCTCTTCTTGTGTTGGTTCCTTCTCAGATCTTCGCCGCGGCTCCTCAGCCAAAACGACACCCCCA
TCTGTCTATCCACTGGCCCCTGGATCTGCTGCCCAAACTAACTCCATGGTGACCCTGGGATGCCTGGTCAA
GGGCTATTTCCCTGAGCCAGTGACAGTGACCTGGAACTCTGGATCCCTGTCCAGCGGTGTGCACACCTTC
CCAGCTGTCCTGCAGTCTGACCTCTACACTCTGAGCAGCTCAGTGACTGTCCCCTCCAGCACCTGGCCCA
GCGAGACCGTCACCTGCAACGTTGCCCACCCGGCCAGCAGCACCAAGGTGGACAAGAAAATTGTGCCCA
GGGATTGTGGTTGTAAGCCTTGCATATGTACAGTCCCAGAAGTATCATCTGTCTTCATCTTCCCCCCAAAG
CCCAAGGATGTGCTCACCATTACTCTGACTCCTAAGGTCACGTGTGTTGTGGTAGACATCAGCAAGGATG
ATCCCGAGGTCCAGTTCAGCTGGTTTGTAGATGATGTGGAGGTGCACACAGCTCAGACGCAACCCCGGGA
GGAGCAGTTCAACAGCACTTTCCGCTCAGTCAGTGAACTTCCCATCATGCACCAGGACTGGCTCAATGGC
AAGGAGCGATCGCTCACCATCACCATCACCATCACCATCACCATTAAAGGCCTATTTTCTTTAGTTTGAAT
TTACTGTTATTCGGTGTGCATTTCTATGTTTGGTGAGCGGTTTTCTGTGCTCAGAGTGTGTTTATTTTATGT
AATTTAATTTCTTTGTGAGCTCCTGTTTAGCAGGTCGTCCCTTCAGCAAGGACACAAAAAGATTTTAATTT
TATTAAAAAAAAAAAAAAAAAAAAGACCGGGAATTCGATATCAAGCTTATCGACCTGCAGATCGTTCAAAC
ATTTGGCAATAAAGTTTCTTAAGATTGAATCCTGTTGCCGGTCTTGCGATGATTATCATATAATTTCTGTT
GAATTACGTTAAGCATGTAATAATTAACATGTAATGCATGACGTTATTTATGAGATGGGTTTTTATGATTA
GAGTCCCGCAATTATACATTTAATACGCGATAGAAAACAAAATATAGCGCGCAAACTAGGATAAATTAT
CGCGCGCGGTGTCATCTATGTTACTAGATCTCTAGAGTCTCAAGCTTGGCGCGCCCACGTGACTAGTGGC
ACTGGCCGTCGTTTTACAACGTCGTGACTGGGAAAACCCTGGCGTTACCCAACTTAATCGCCTTGCAGCA
CATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCGATCGCCCTTCCCAACAGTTGCGCA
GCCTGAATGGCGAATGCTAGAGCAGCTTGAGCTTGGATCAGATTGTCGTTTCCCGCCTTCAGTTTAAACT
ATCAGTGTTTGACAGGATATATTGGCGGGTAAACCTAAGAGAAAAGAGCGTTTA

Figure 13G, SEQ ID NO: 48

Expression cassette number 1366 from 2X35S promoter to NOS terminator. PDISP-GP from Zaire 95 Ebolavirus-H5 TM+CT from A/Indonesia/5/2005sequence is underlined.

GTCAACATGGTGGAGCACGACACACTTGTCTACTCCAAAAATATCAAAGATACAGTCTCAGAAGACCAA
AGGGCAATTGAGACTTTTCAACAAAGGGTAATATCCGGAAACCTCCTCGGATTCCATTGCCCAGCTATCT
GTCACTTTATTGTGAAGATAGTGGAAAAGGAAGGTGGCTCCTACAAATGCCATCATTGCGATAAAGGAA
AGGCCATCGTTGAAGATGCCTCTGCCGACAGTGGTCCCAAAGATGGACCCCCACCCACGAGGAGCATCG
TGGAAAAAGAAGACGTTCCAACCACGTCTTCAAAGCAAGTGGATTGATGTGATAACATGGTGGAGCACG
ACACACTTGTCTACTCCAAAAATATCAAAGATACAGTCTCAGAAGACCAAAGGGCAATTGAGACTTTTCA
ACAAAGGGTAATATCCGGAAACCTCCTCGGATTCCATTGCCCAGCTATCTGTCACTTTATTGTGAAGATA
GTGGAAAAGGAAGGTGGCTCCTACAAATGCCATCATTGCGATAAAGGAAAGGCCATCGTTGAAGATGCC
TCTGCCGACAGTGGTCCCAAAGATGGACCCCCACCCACGAGGAGCATCGTGGAAAAAGAAGACGTTCCA
ACCACGTCTTCAAAGCAAGTGGATTGATGTGATATCTCCACTGACGTAAGGGATGACGCACAATCCCACT
ATCCTTCGCAAGACCCTTCCTCTATATAAGGAAGTTCATTTCATTTGGAGAGGTATTAAAATCTTAATAGG
TTTTGATAAAAGCGAACGTGGGGAAACCCGAACCAAACCTTCTTCTAAACTCTCTCTCATCTCTCTTAAAG
CAAACTTCTCTCTTGTCTTTCTTGCGTGAGCGATCTTCAACGTTGTCAGATCGTGCTTCGGCACCAGTACA
ACGTTTTCTTTCACTGAAGCGAAATCAAAGATCTCTTTGTGGACACGTAGTGCGGCGCCATTAAATAACG
TGTACTTGTCCTATTCTTGTCGGTGTGGTCTTGGGAAAAGAAAGCTTGCTGGAGGCTGCTGTTCAGCCCCA
TACATTACTTGTTACGATTCTGCTGACTTTCGGCGGGTGCAATATCTCTACTTCTGCTTGACGAGGTATTG
TTGCCTGTACTTCTTTCTTCTTCTTCTTGCTGATTGGTTCTATAAGAAATCTAGTATTTTCTTTGAAACAGA
GTTTTCCCGTGGTTTTCGAACTTGGAGAAAGATTGTTAAGCTTCTGTATATTCTGCCCAAATTTGTCGGGC
CCATGGCGAAAAACGTTGCGATTTTCGGCTTATTGTTTTCTCTTCTTGTGTTGGTTCCTTCTCAGATCTTCG
CCATCCCTCTGGGAGTGATCCACAATTCGACTCTCCAGGTGAGCGAGGTCGACAAACTCGTGTGCCGCGA
TAAGTTGTCCAGCACCAATCAGCTCAGAAGTGTTGGCCTCAACCTGGAGGGGAATGGGGTCGCCACAGA
CGTGCCATCCGCGACCAAGCGCTGGGGCTTTCGGTCGGGTGTTCCCCCTAAAGTCGTGAATTACGAGGCC
GGGGAGTGGGCTGAAAACTGCTACAACCTGGAAATCAAGAAACCCGACGGCAGCGAGTGTCTGCCCGCG
GCCCCAGACGGGATCAGCGGTTTCCCGAGGTGCCGGTACGTGCACAAGGTCTCGGGAACCGGCCCGTGC
GCCGGCGATTTTGCCTTCCATAAGGAGGGCGCATTCTTTCTCTACGATAGACTGGCCTCCACGGTCATCTA

TCGCGGCACCACCTTCGCGGAGGGGGTGGTGGCATTCCTCATCCTGCCGCAGGCTAAGAAAGATTTCTTC
AGCTCCCACCCTCTCAGGGAACCAGTCAACGCCACAGAGGATCCCTCCTCGGGATATTACAGCACCACAA
TTCGGTACCAGGCCACAGGCTTCGGGACCAATGAGACTGAGTACCTGTTCGAGGTGGACAACCTAACATA
CGTGCAGCTCGAATCGCGGTTTACCCCGCAGTTCCTTTTGCAACTTAACGAGACGATCTATACCAGTGGT
AAACGGAGCAACACGACCGGGAAGCTCATCTGGAAAGTAAACCCGGAGATCGACACCACGATTGGAGA
GTGGGCTTTCTGGGAAACCAAGAAAAACCTGACCCGGAAGATCAGGTCGGAGGAGTTGAGCTTCACTGC
CGTCTCCAATAGAGCAAAAAACATCAGCGGCCAGAGCCCTGCCCGGACTTCCAGCGACCCAGGTACCAA
CACCACGACAGAGGACCACAAGATTATGGCCTCGGAGAATTCCTCTGCAATGGTCCAGGTGCATAGCCA
GGGGCGCGAAGCTGCCGTCTCGCACCTGACAACCTTGGCAACGATTTCCACCAGCCCACAACCACCCACG
ACAAAGCCCGGGCCCGACAACTCCACCCATAATACCCCGGTCTATAAGCTGGACATTTCCGAAGCTACGC
AGGTGGAGCAGCACCACCGGAGGACCGACAACGACTCAACAGCTAGCGATACCCCTCCCGCCACCACGG
CAGCGGGCCCACCCAAGGCTGAGAACACCAATACGAGCAAGGGCACCGACCTCCTGGACCCCGCGACTA
CCACGAGCCCCCAGAATCACAGCGAAACGGCGGGCAACAACAACACACACCATCAGGATACTGGGGAG
GAGTCGGCCTCCAGCGGAAAACTGGGCCTGATCACAAACACCATAGCCGGGGTCGCCGGGCTGATCACT
GGAGGCCGGAGGGCACGCAGAGAGGCCATTGTGAACGCCCAGCCCAAATGCAACCCAAACCTCCACTAC
TGGACCACGCAGGACGAGGGGGCCGCTATCGGCCTGGCCTGGATCCCATACTTTGGGCCCGCCGCTGAG
GGCATATACACGGAGGGCCTCATGCACAATCAGGACGGACTGATCTGCGGACTCCGCCAGCTTGCCAAC
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GGAAGGCAATCGATTTCCTACTCCAGCGGTGGGGCGGGACATGCCACATCCTGGGACCCGATTGTTGCAT
CGAGCCCCACGACTGGACCAAGAACATTACAGATAAAATCGACCAGATCATTCATGATTTCGTGGACAA
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TTCTATGTTTGGTGAGCGGTTTTCTGTGCTCAGAGTGTGTTTATTTTATGTAATTTAATTTCTTTGTGAGCT
CCTGTTTAGCAGGTCGTCCCTTCAGCAAGGACACAAAAAGATTTTAATTTTATTAAAAAAAAAAAAAAAAA
AAGACCGGGAATTCGATATCAAGCTTATCGACCTGCAGATCGTTCAAACATTTGGCAATAAAGTTTCTTA
AGATTGAATCCTGTTGCCGGTCTTGCGATGATTATCATATAATTTCTGTTGAATTACGTTAAGCATGTAAT
AATTAACATGTAATGCATGACGTTATTTATGAGATGGGTTTTTATGATTAGAGTCCCGCAATTATACATTT
AATACGCGATAGAAAACAAAATATAGCGCGCAAACTAGGATAAATTATCGCGCGCGGTGTCATCTATGT
TACTAGAT

Figure 13 H, SEQ ID NO: 49

Amino acid sequence of PDISP-GP from Zaire 95 Ebolavirus-H5 TM+CT from A/Indonesia/5/2005

MAKNVAIFGLLFSLLVLVPSQIFAIPLGVIHNSTLQVSEVDKLVCRDKLSSTNQLRSVGLN
LEGNGVATDVPSATKRWGFRSGVPPKVVNYEAGEWAENCYNLEIKKPDGSECLPAAPD
GIRGFPRCRYVHKVSGTGPCAGDFAFHKEGAFFLYDRLASTVIYRGTTFAEGVVAFLILP
QAKKDFFSSHPLREPVNATEDPSSGYYSTTIRYQATGFGTNETEYLFEVDNLTYVQLESR
FTPQFLLQLNETIYTSGKRSNTTGKLIWKVNPEIDTTIGEWAFWETKKNLTRKIRSEELSFT
AVSNRAKNISGQSPARTSSDPGTNTTTEDHKIMASENSSAMVQVHSQGREAAVSHLTTL
ATISTSPQPPTTKPGPDNSTHNTPVYKLDISEATQVEQHHRRTDNDSTASDTPPATTAAGP
PKAENTNTSKGTDLLDPATTTSPQNHSETAGNNNTHHQDTGEESASSGKLGLITNTIAGV
AGLITGGRRARREAIVNAQPKCNPNLHYWTTQDEGAAIGLAWIPYFGPAAEGIYTEGLM
HNQDGLICGLRQLANETTQALQLFLRATTELRTFSILNRKAIDFLLQRWGGTCHILGPDC
CIEPHDWTKNITDKIDQIIHDFVDKTLPDQGDNDNWWTGWRQILSIYSTVASSLALAIMM
AGLSLWMCSNGSLQCRICI*

Figure 13I

Schematic representation of construct number 1366

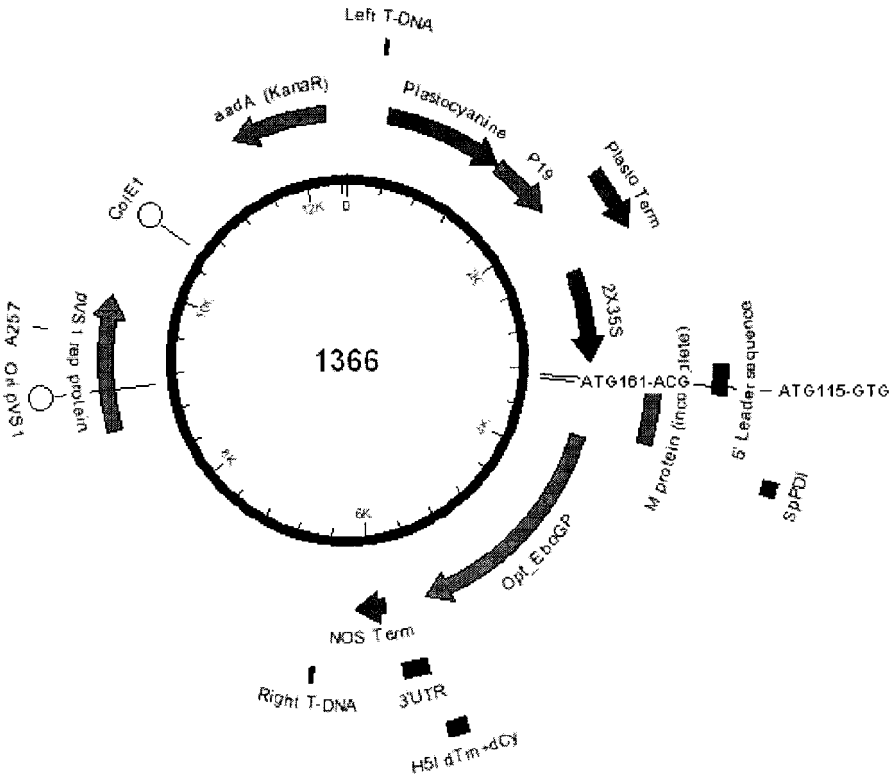




Figure 13J