

SEQUENCE LISTING

<110> TRANSGENE S.A.
SILVESTRE Nathalie
JACOBS Eric

<120> Signaling peptides

<130> TG184 EXT

<150> EP07360020.7

<151> 2007-05-15

<160> 28

<170> PatentIn version 3.3

<210> 1

<211> 23

<212> PRT

<213> artificial sequence

<220>

<223> signal peptide derived from the rabies glycoprotein of
ERA strain (M38452 v1)

<400> 1

Met	Val	Pro	Gln	Val	Leu	Leu	Phe	Val	Pro	Leu	Leu	Gly	Phe	Pro	Leu
1				5					10					15	
Cys	Phe	Gly	Lys	Phe	Pro	Ile									
			20												

<210> 2

<211> 23

<212> PRT

<213> artificial sequence

<220>

<223> signal peptide derived from the rabies glycoprotein of
PG strain (ay009097, v1)

<400> 2

Met	Val	Pro	Gln	Ala	Leu	Leu	Leu	Val	Pro	Leu	Leu	Gly	Phe	Ser	Leu
1				5					10					15	
Cys	Phe	Gly	Lys	Phe	Pro	Ile									
			20												

<210> 3

<211> 66

<212> PRT

<213> artificial sequence

<220>

<223> membrane-anchoring peptide derived from the rabies
Glycoprotein of PG strain (M38452 v2-ay009097 v1)

<400> 3

Tyr Val Leu Leu Ser Ala Gly Thr Leu Ile Ala Leu Met Leu Ile Ile

```

1           5           10           15
Phe Leu Ile Thr Cys Cys Lys Arg Val Asp Arg Pro Glu Ser Thr Gln
                20           25           30
Arg Ser Leu Arg Gly Thr Gly Arg Asn Val Ser Val Thr Ser Gln Ser
        35           40           45
Gly Lys Phe Ile Ser Ser Trp Glu Ser His Lys Ser Gly Gly Glu Thr
        50           55           60
Arg Leu
65

```

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<210> 4
<211> 66
<212> PRT
<213> artificial sequence

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<220>
<223> membrane-anchoring peptide derived from the rabies
      glycoprotein of Nishigahara strain (S72465, v1)

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<400> 4
Tyr Val Leu Leu Ser Ala Gly Thr Leu Ile Ala Leu Met Leu Ile Ile
1           5           10           15
Phe Leu Met Thr Cys Cys Arg Lys Val Asp Arg Pro Glu Ser Thr Gln
                20           25           30
Arg Ser Leu Arg Gly Thr Gly Arg Asn Val Ser Val Thr Ser Gln Ser
        35           40           45
Gly Lys Phe Ile Ser Ser Trp Glu Ser His Lys Ser Gly Gly Glu Thr
        50           55           60
Arg Leu
65

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<210> 5
<211> 66
<212> PRT
<213> artificial sequence

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<220>
<223> membrane-anchoring peptide derived from the rabies
      glycoprotein of artic fox strain (U11751, v1)

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```

<400> 5
Tyr Val Leu Ile Ile Ala Gly Val Leu Ile Ala Met Ile Leu Thr Ile
1           5           10           15
Phe Leu Met Thr Cys Cys Gly Arg Gly Asn Arg Pro Lys Ser Thr Gln
                20           25           30
His Ser Leu Gly Gly Ile Gly Arg Lys Val Ser Ala Thr Ser Gln Ser
        35           40           45
Gly Lys Val Ile Ser Ser Trp Glu Ser His Lys Ser Gly Gly Glu Thr
        50           55           60
Arg Leu
65

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<210> 6
<211> 23
<212> PRT
<213> Rabies virus (ERA strain)

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<400> 6

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Met Val Pro Gln Ala Leu Leu Phe Val Pro Leu Leu Val Phe Pro Leu
 1 5 10 15
 Cys Phe Gly Lys Phe Pro Ile
 20

<210> 7
 <211> 23
 <212> PRT
 <213> Rabies virus (PG strain)

<400> 7
 Met Val Pro Leu Ala Leu Leu Leu Val Pro Leu Leu Gly Phe Ser Leu
 1 5 10 15
 Cys Phe Gly Lys Phe Pro Ile
 20

<210> 8
 <211> 66
 <212> PRT
 <213> Rabies virus (PG strain)

<400> 8
 Tyr Val Leu Leu Ser Ala Gly Thr Leu Ile Ala Leu Met Leu Ile Ile
 1 5 10 15
 Phe Leu Ile Thr Cys Cys Lys Arg Val Asp Arg Pro Glu Ser Thr Gln
 20 25 30
 Arg Ser Leu Arg Gly Thr Gly Arg Asn Val Ser Val Thr Ser Gln Ser
 35 40 45
 Gly Lys Phe Ile His Ser Trp Glu Ser Tyr Lys Ser Gly Gly Glu Thr
 50 55 60
 Gly Leu
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<210> 9
 <211> 66
 <212> PRT
 <213> Rabies virus (Nishigahara strain)

<400> 9
 Tyr Val Leu Leu Ser Ala Gly Thr Leu Ile Ala Leu Met Leu Ile Ile
 1 5 10 15
 Phe Leu Met Thr Cys Cys Arg Lys Val Asp Arg Pro Glu Ser Thr Gln
 20 25 30
 Arg Ser Leu Arg Gly Thr Gly Arg Asn Val Ser Val Thr Ser Gln Ser
 35 40 45
 Gly Lys Phe Ile Pro Ser Trp Glu Ser Tyr Lys Ser Gly Gly Glu Thr
 50 55 60
 Gly Leu
 65

<210> 10
 <211> 66
 <212> PRT
 <213> Rabies virus (artic fox strain)

<400> 10
 Tyr Val Leu Ile Ile Ala Gly Val Leu Ile Ala Met Ile Leu Thr Ile

```

1           5           10           15
Phe Leu Met Thr Cys Cys Gly Arg Gly Asn Arg Pro Lys Ser Thr Gln
           20           25           30
His Ser Leu Gly Gly Ile Gly Arg Lys Val Ser Ala Thr Ser Gln Ser
           35           40           45
Gly Lys Val Ile Ser Ser Trp Glu Ser Tyr Lys Ser Gly Gly Glu Thr
           50           55           60
Arg Leu
65

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<210> 11
<211> 69
<212> DNA
<213> artificial sequence

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<220>
<223> degenerated nucleotide sequence encoding the signal peptide
      M38452, v1 derived from the rabies glycoprotein
      (ERA strain)

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<400> 11
atggtgccac aggtactact ctttgtcca ttgctcgggt ttccgttatg tttcggcaag      60
ttcccgatc                                         69

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<210> 12
<211> 69
<212> DNA
<213> artificial sequence

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<220>
<223> degenerated nucleotide sequence encoding the peptide signal
      ay009097, v1 derived from the rabies glycoprotein of
      PG strain

```

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<400> 12
atgtaccac aagcgctggt acttgtccca ctgcttggtt tctctttatg ttttgaaaa      60
ttccaata                                         69

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<210> 13
<211> 69
<212> DNA
<213> artificial sequence

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<220>
<223> degenerated nucleotide sequence encoding the signal peptide
      of the rabies glycoprotein of the Nishigahara
      strain (S72465, v1)

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<400> 13
atgtccctc aagcactact tctagttccg atcctaggat tctcctcgtg cttcggtaaa      60
tttccgatt                                         69

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<210> 14
<211> 69
<212> DNA
<213> artificial sequence

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<220>
 <223> degenerated nucleotide sequence encoding the signal peptide
 derived from the rabies glycoprotein of artic fox strain
 (u11751, v1)

<400> 14
 atggtgcccc aggttctttt gttcgtgcct ctacttggct tccccctttg ttttggaag 60
 tttccgatc 69

<210> 15
 <211> 69
 <212> DNA
 <213> artificial sequence

<220>
 <223> degenerated nucleotide sequence encoding a signal peptide
 derived from the rabies glycoprotein of artic fox strain
 (u11751, v2)

<400> 15
 atggtacctc aagtcttatt gttcgtaccg ttgttaggtt tcccgttatg ctttggaag 60
 tttccaata 69

<210> 16
 <211> 69
 <212> DNA
 <213> artificial sequence

<220>
 <223> degenerated nucleotide sequence encoding a signal peptide
 Derived from the rabies glycoprotein of ERA strain
 (M38452, v2-ay009097 v2)

<400> 16
 atggtaccgc aagccctgct attcgtacct ttatttgtct ttccccctctg tttcggttaag 60
 tttcctata 69

<210> 17
 <211> 201
 <212> DNA
 <213> artificial sequence

<220>
 <223> degenerated nucleotide sequence encoding a membrane-
 Anchoring peptide derived from the rabies glycoprotein
 of ERA strain (M38452, v1)

<400> 17
 tacgttttgc tcagcgcggg tgctcttacg gcgctgatgt tgattatctt tctcatgact 60
 tgttgccgca gagtgaaccg ttcggagccg actcagcata acttacgtgg cactggcaga 120
 gaagttagt ttacaccaca gtccggaata attatctcca gctgggagtc tcataaatcg 180
 ggcggagaaa cgaggctatg a 201

<210> 18
 <211> 201
 <212> DNA
 <213> artificial sequence

<220>

<223> degenerated nucleotide sequence encoding a membrane-
anchoring peptide derived from the rabies glycoprotein
of PG strain (ay009097, v1)

<400> 18

tatgtttcttc	tctctgctgg	aactttaata	gctttaatgt	taataatatt	cttaataacg	60
tgctgtaaaa	gggtagaccg	tccagagtca	actcagcgca	gccttagggg	tactgggaga	120
aatgtttccg	tgacatcaca	gagtggaaaa	tttatctcgt	cttgggaatc	tcataagagt	180
ggaggcgaaa	cacgtctttg	a				201

<210> 19

<211> 201

<212> DNA

<213> artificial sequence

<220>

<223> degenerated nucleotide sequence encoding a membrane-
anchoring peptide derived from the rabies glycoprotein
of Nishigahara strain (S72465, v1)

<400> 19

tacgtgctcc	taagcgcggg	caccttgatt	gcactcatgc	tgatcatatt	cctaataacg	60
tggtgcagga	aagtggatcg	gcctgaatcg	acacaacgaa	gtctaagagg	aacgggtcgg	120
aacgtctctg	taacctccca	atccggcaaa	ttcatatcaa	gttgggaaag	tcacaagagc	180
ggtggtgaga	ctcgactatg	a				201

<210> 20

<211> 201

<212> DNA

<213> artificial sequence

<220>

<223> degenerated nucleotide sequence encoding a membrane-
anchoring peptide derived from the rabies glycoprotein
of artic fox strain (u11751, v1)

<400> 20

tacgtcttga	taattgccgg	tgtcctaata	gcatgatata	tcacaatctt	ccttatgacc	60
tgctgtggaa	gaggtaacgg	cccaaatgac	accagcatt	ctctgggagg	tataggacgt	120
aaggtatcgg	ccacgtctca	gtctggtaag	gtcatttcct	cgtgggagtc	ccataaaagc	180
ggcggggaaa	ctagactctg	a				201

<210> 21

<211> 201

<212> DNA

<213> artificial sequence

<220>

<223> degenerated nucleotide sequence encoding a membrane-
anchoring peptide derived from the rabies glycoprotein
of artic fox strain (u11751, v2)

<400> 21

tatgtgctta	tcacgcgggg	agtactcatt	gctatgatcc	taactatatt	tcttatgact	60
tgctgcggtc	gagggaaatg	acaaaaagc	acacaacact	cgctgggagg	aatcggtcga	120
aaagtctcag	caactagtca	atcaggaaaa	gttataagct	cctgggaaag	ccacaagtct	180

ggaggtgaga ctagactatg a

201

<210> 22

<211> 201

<212> DNA

<213> artificial sequence

<220>

<223> degenerated nucleotide sequence encoding a membrane-anchoring peptide derived from the rabies glycoprotein of PG strain (M38452, v2-ay009097, v2)

<400> 22

tacgtactgc	tatcggcagg	cacgttgatc	gcactaatgc	ttatcatctt	cctaataacc	60
tgctgcaagc	gggttgatag	gcccgaaggt	acccaaaggt	ccttgagagg	taccggacgc	120
aacgtatcgg	taacgtcgca	aagcgcaag	ttcattagca	gttgggagtc	gcacaaatca	180
ggtggagaga	ccgcctgtg	a				201

<210> 23

<211> 276

<212> DNA

<213> artificial sequence

<220>

<223> degenerated nucleotide sequence encoding signal and membrane-anchoring peptides derived from the rabies glycoprotein of ERA strain (M38452, v1)

<400> 23

atgggtccac	aggtactact	ctttgtgcca	ttgctcgggt	ttccgttatg	tttcggcaag	60
ttcccgatcg	gacccatagc	tttgctcagc	gcggtgctc	ttacggcgct	gatgttgatt	120
atctttctca	tgacttggtg	ccgcagagtg	aaccgttcgg	agccgactca	gcataactta	180
cgtggcactg	gcagagaagt	tagtgttaca	ccacagtccg	gaaaaattat	ctccagctgg	240
gagtctcata	aatcggggcg	agaaacgagg	ctatga			276

<210> 24

<211> 276

<212> DNA

<213> artificial sequence

<220>

<223> degenerated nucleotide sequence encoding signal and membrane-anchoring peptides derived from the rabies glycoprotein of PG strain (ay009097, v1)

<400> 24

atgggtaccac	aagcgtgtgt	acttgtccca	ctgcttggtt	tctctttatg	ttttggaaaa	60
ttcccaatag	gacccatagt	tcttctctct	gctggaactt	taatagcttt	aatgttaata	120
atattcttaa	taacgtgctg	taaaagggtg	gaccgtccag	agtcaactca	gcgcagcctt	180
aggggtactg	ggagaaatgt	ttccgtgaca	tcacagagtg	gaaaatttat	ctcgtcttgg	240
gaatctcata	agagtggagg	cgaaacacgt	ctttga			276

<210> 25

<211> 276

<212> DNA

<213> artificial sequence

<220>

<223> degenerated nucleotide sequence encoding signal and
membrane-anchoring peptides derived from the rabies
glycoprotein of Nishigahara strain (S72465, v1)

<400> 25

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atgggtccctc aagcaactact tctagttccg atcctaggat tctcctcgtg cttcggtaaa    60
tttccgattg gatcctacgt gtcctaagc gggggcacct tgattgcact catgctgac    120
atattcctaa tgacgtgttg caggaaagtg gatcggcctg aatcgacaca acgaagtcta    180
agaggaacgg gtcggaacgt ctctgtaacc tcccaatccg gcaaattcat atcaagttgg    240
gaaagtcaca agagcgggtg tgagactcga ctatga                                276
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<210> 26

<211> 276

<212> DNA

<213> artificial sequence

<220>

<223> degenerated nucleotide sequence encoding signal and
membrane-anchoring peptides derived from the rabies
glycoprotein of artic fox strain (u11751, v1)

<400> 26

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atgggtgcccc aggttctttt gttcgtgcct ctacttggct tccccctttg ttttggcaag    60
tttccgatcg gatcctacgt cttgataatt gccgggtgtcc taatcgcgat gatactcaca    120
atcttcctta tgacctgctg tggaagaggt aaccgccccca agtccaccca gcattctctg    180
ggaggtatag gacgtaaggt atcggccacg tctcagtcctg gtaaggtcat ttcctcgtgg    240
gagtcaccata aaagcggcgg ggaaactaga ctctga                                276
```

<210> 27

<211> 276

<212> DNA

<213> artificial sequence

<220>

<223> degenerated nucleotide sequence encoding signal and
membrane-anchoring peptides derived from the rabies
glycoprotein of artic fox strain (u11751, v2)

<400> 27

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atgggtacctc aagtottatt gttcgtaccg ttgttaggtt tcccgttatg ctttggcaaa    60
tttccaatag gatcctatgt gcttatcatc gggggagtag tcattgctat gatcctaact    120
atatttctta tgacttgctg cggtcgaggg aatagaccaa aaagcacaca acactcgctg    180
ggcggaatcg gtcgaaaagt ctcagcaact agtcaatcag gaaaagttat aagctcctgg    240
gaaagccaca agtctggagg tgagactaga ctatga                                276
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<210> 28

<211> 276

<212> DNA

<213> artificial sequence

<220>

<223> degeneratde nucleotide sequence encoding signal and
membrane-anchoring peptides derived from the rabies
glycoprotein respectively of ERA and PG strains
(M38452, v2, ay009097, v2)

<400> 28

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tttcctatag	gacccctacgt	actgctatcg	gcaggcacgt	tgatcgcaact	aatgcttatc	120
atcttcctaa	taacctgctg	caagcgggtt	gataggcccg	aaagtaccca	aaggtccttg	180
agaggtaccg	gacgcaacgt	atcggtaacg	tcgcaaagcg	gcaagttcat	tagcagttgg	240
gagtcgcaca	aatcaggtgg	agagacccgc	ctgtga			276