

Rk14145PCT_sequence.txt
SEQUENCE LISTING

<110> RIKEN
<120> Polypeptide Exhibiting Fluorescent Properties, And Utilization Of Same
<130> RK14145PCT
<140> PCT/JP2014/072039
<141> 2014-08-22
<150> JP2013-173850
<151> 2013-08-23
<160> 19
<170> PatentIn version 3.5
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<213> Artificial Sequence
<220>
<223> Mutant polypeptide having fluorescent property
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Met Glu Asn Val Arg Arg Lys Ser Gly Ile Gln Thr Glu Met Lys Thr
1 5 10 15

Lys Leu His Met Asp Gly Met Val Asn Gly His Ser Phe Glu Ile Lys
20 25 30

Gly Glu Gly Lys Gly Ser Pro Tyr Glu Gly Val Gln Thr Met Lys Leu
35 40 45

Lys Val Thr Lys Gly Ala Pro Leu Pro Phe Ser Ile Asp Ile Leu Leu
50 55 60

Pro Gln Cys Met Tyr Gly Ser Lys Pro Phe Ile Lys Tyr Pro Glu Asn
65 70 75 80

Ile Pro Asp Tyr Ile Lys Leu Ser Phe Pro Glu Gly Ile Thr Trp Glu
85 90 95

Arg Thr Met Thr Phe Glu Asp Gly Ala Val Cys Asp Val Ser Asn Asp
100 105 110

Ser Arg Leu Val Gly Asn Cys Phe Asn Tyr Thr Val Lys Phe Gln Gly
115 120 125

Val Asn Phe Pro Leu Asp Gly Pro Val Met Gln Lys Lys Thr Arg Gly
130 135 140

Trp Asp Pro Ser Thr Glu Arg Leu Tyr Glu Cys Asp Gly Trp Leu Arg
145 150 155 160

Gly Asp Val Asp Met Ala Leu Lys Leu Glu Asn Gly Gly His Tyr Thr
 165 170 175

Cys Asn Phe Lys Thr Thr Tyr Lys Ser Lys Lys Gly Leu Lys Val Pro
 180 185 190

Pro Tyr His Phe Val Asp His Lys Leu Asp Leu Leu Ser His Asn Thr
 195 200 205

Asp Gly Ala Thr Phe Glu Glu Phe Glu Gln Gln Glu Ile Ala His Ala
 210 215 220

His Leu Ser Lys Leu Ala
 225 230

<210> 2
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 <213> Artificial Sequence

<220>
 <223> Mutant polypeptide having fluorescent property

<400> 2

Met Glu Ala Leu Ser Lys Gln Thr Gly Ile Gln Thr Glu Met Lys Thr
 1 5 10 15

Lys Phe His Met Asp Gly Ile Val Asn Gly His Leu Phe Glu Ile Glu
 20 25 30

Gly Glu Gly Lys Gly Lys Pro Tyr Glu Gly Val Gln Thr Met Lys Leu
 35 40 45

Lys Val Thr Lys Gly Ala Pro Leu Pro Phe Ser Ile Asp Ile Leu Leu
 50 55 60

Pro Gln Val Met Tyr Gly Ser Lys Pro Phe Ile Lys Tyr Pro Glu Asn
 65 70 75 80

Ile Pro Asp Tyr Ile Lys Leu Ser Phe Pro Glu Gly Ile Thr Trp Glu
 85 90 95

Arg Thr Met Thr Phe Glu Asp Gly Ala Val Cys Thr Ala Ser Asn Asp
 100 105 110

Ser Ser Leu Glu Gly Asn Cys Phe Asn Tyr Lys Val Lys Phe Gln Gly
 115 120 125

Val Asn Phe Pro Gln Asp Gly Pro Ile Met Gln Lys Arg Thr Arg Gly
 130 135 140

Trp Glu Pro Ser Thr Glu Arg Leu Tyr Glu Trp Asp Gly Trp Gln Arg
 145 150 155 160

Rk14145PCT_sequence.txt

Gly Asp Val His Met Ala Leu Lys Leu Glu Asn Gly Gly Asn Tyr Thr
165 170 175

Cys Asn Phe Lys Thr Thr Tyr Lys Ser Lys Lys Gly Leu Arg Val Ser
180 185 190

Pro Tyr His Phe Val Asp His Lys Leu Asp Val Leu Ser Arg Asn Thr
195 200 205

Asp Gly Ala Thr Phe Glu Glu Phe Glu Leu Arg Glu Ile Ala His Ala
210 215 220

His Leu Ser Lys Leu Ala
225 230

<210> 3
<211> 693
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<213> Artificial Sequence

<220>
<223> Mutant gene coding for polypeptide having fluorescent property

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<213> Artificial Sequence

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<223> Mutant gene coding for polypeptide having fluorescent property

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Rk14145PCT_sequence.txt

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atcccagact acatcaagtt gtcatttccc gagggaaatca catgggaaag aaccatgacc 300
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aactacaaag tcaagtttca aggtgtgaac tttccccaag atggacctat tatgcagaag 420
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actacttaca aatcaaaaaa gggcttgagg gtgtcaccgt atcacttcgt tgaccacaaa 600
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attgctcacg cacatctttc taagttagcc taa 693

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<210> 5
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<220>
 <223> Mutant polypeptide having fluorescent property
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Lys Leu His Met Asp Gly Met Val Asn Gly His Ser Phe Glu Ile Lys
20          25          30
Gly Glu Gly Lys Gly Ser Pro Tyr Glu Gly Val Gln Thr Met Lys Leu
35          40          45
Lys Val Thr Lys Gly Ala Pro Leu Pro Phe Ser Ile Asp Ile Leu Leu
50          55          60
Pro Gln His Met Tyr Gly Ser Lys Pro Phe Ile Lys Tyr Pro Glu Asn
65          70          75          80
Ile Pro Asp Tyr Ile Lys Leu Ser Phe Pro Glu Gly Ile Thr Trp Glu
85          90          95
Arg Thr Met Thr Phe Glu Asp Gly Ala Val Cys Thr Ala Ser Asn Asp
100         105         110
Ser Arg Leu Val Gly Asn Cys Phe Asn Tyr Thr Val Lys Phe Gln Gly
115         120         125
Val Asn Phe Pro Leu Asp Gly Pro Val Met Gln Lys Lys Thr Arg Gly
130         135         140

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Rk14145PCT_sequence.txt

Trp Asp Pro Ser Thr Glu Arg Leu Tyr Glu Cys Asp Gly Trp Leu Arg
145 150 155 160

Gly Asp Val Asp Met Ala Leu Lys Leu Glu Asn Gly Gly His Tyr Thr
165 170 175

Cys Asn Phe Lys Thr Thr Tyr Lys Ser Lys Lys Gly Leu Lys Val Pro
180 185 190

Pro Tyr His Phe Val Asp His Lys Leu Asp Leu Leu Ser His Asn Thr
195 200 205

Asp Gly Ala Thr Phe Glu Glu Phe Glu Gln Gln Glu Ile Ala His Ala
210 215 220

His Leu Ser Lys Leu Ala
225 230

<210> 6
<211> 230
<212> PRT
<213> Artificial Sequence

<220>
<223> Mutant polypeptide having fluorescent property

<400> 6

Met Glu Asn Val Arg Arg Lys Ser Gly Ile Gln Thr Glu Met Lys Thr
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Lys Leu His Met Asp Gly Lys Val Asn Gly His Ser Phe Glu Ile Lys
20 25 30

Gly Glu Gly Lys Gly Ser Pro Tyr Glu Gly Val Gln Thr Met Lys Leu
35 40 45

Lys Val Thr Lys Gly Ala Pro Leu Pro Phe Ser Ile Asp Ile Leu Leu
50 55 60

Pro Gln His Met Tyr Gly Ser Lys Pro Phe Ile Lys Tyr Pro Glu Asn
65 70 75 80

Ile Pro Asp Tyr Ile Lys Leu Ser Phe Pro Glu Gly Ile Thr Trp Glu
85 90 95

Arg Thr Met Thr Phe Glu Asp Gly Ala Val Cys Thr Ala Ser Asn Asp
100 105 110

Ser Arg Leu Val Gly Asn Cys Phe Asn Tyr Thr Val Lys Phe Glu Gly
115 120 125

Val Asn Phe Pro Leu Asp Gly Pro Val Met Gln Lys Lys Thr Arg Gly
130 135 140

Rk14145PCT_sequence.txt

Trp Asp Pro Ser Thr Glu Arg Leu Tyr Glu Cys Asp Gly Trp Leu Arg
145 150 155 160

Gly Asp Val His Met Ala Leu Lys Leu Glu Asn Gly Gly His Tyr Thr
165 170 175

Cys Asn Phe Lys Thr Thr Tyr Lys Ser Lys Lys Gly Leu Lys Val Pro
180 185 190

Pro Tyr His Phe Val Asp His Lys Leu Asp Leu Leu Ser His Asn Thr
195 200 205

Asp Gly Ala Thr Phe Glu Glu Phe Glu Gln Gln Glu Ile Ala His Ala
210 215 220

His Leu Ser Lys Leu Ala
225 230

<210> 7
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<213> Artificial Sequence

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<223> Mutant polypeptide having fluorescent property

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Met Glu Ala Leu Ser Lys Gln Thr Gly Ile Gln Thr Glu Met Lys Thr
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Lys Phe His Met Asp Gly Ile Val Asn Gly His Leu Phe Glu Ile Glu
20 25 30

Gly Glu Gly Lys Gly Lys Pro Tyr Glu Gly Val Gln Thr Met Lys Leu
35 40 45

Lys Val Thr Lys Gly Ala Pro Leu Pro Phe Ser Ile Asp Ile Leu Leu
50 55 60

Pro Gln Glu Met Tyr Gly Ser Lys Pro Phe Ile Lys Tyr Pro Glu Asp
65 70 75 80

Ile Pro Asp Tyr Ile Lys Leu Ser Phe Pro Glu Gly Ile Thr Trp Glu
85 90 95

Arg Thr Met Thr Phe Glu Asp Gly Ala Val Cys Thr Val Ser Asn Asp
100 105 110

Ser Ser Leu Glu Gly Asn Cys Phe Ile Tyr Lys Val Lys Phe Gln Gly
115 120 125

Rk14145PCT_sequence.txt

Val Asn Phe Pro Gln Asp Gly Pro Ile Met Gln Lys Lys Thr Arg Gly
130 135 140

Trp Glu Pro Phe Thr Glu Arg Leu Tyr Glu Trp Asp Gly Trp Gln Arg
145 150 155 160

Gly Asp Val His Met Ala Leu Lys Leu Glu Asp Gly Gly Asn Tyr Thr
165 170 175

Cys Asn Ser Lys Thr Thr Tyr Lys Ser Lys Lys Gly Leu Arg Val Pro
180 185 190

Pro Tyr His Phe Val Asp His Lys Leu Asp Val Leu Ser His Asn Thr
195 200 205

Asp Gly Val Thr Phe Glu Glu Phe Glu Gln Arg Glu Ile Ala His Ala
210 215 220

His Leu Ser Lys Leu Ala
225 230

<210> 8
<211> 693
<212> DNA
<213> Artificial Sequence

<220>
<223> Mutant gene coding for polypeptide having fluorescent property

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gacattttgc tgcctcaaca catgtatgga agcaagccat ttattaagta tcctgagaat 240
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attgctcatg cacatctttc taagttagcc taa 693

<210> 9
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<212> DNA
<213> Artificial Sequence

<220>

<223> Mutant gene coding for polypeptide having fluorescent property

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gaggggtgtg agaccatgaa acttaaagtg accaaggggtg cgcctttgcc attttctatt      180
gacattttgc tgcctcaaca catgtatgga agcaagccat ttattaagta tcctgagaat      240
atcccagact acatcaagct gtcgtttcct gagggaaatca catgggaaag aaccatgacc      300
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aactacacag tcaagtttga aggtgtgaac tttcccctag atggacctgt tatgcagaag      420
aagacacgag gctgggagcc gtccactgag agactgtatg agtgtgatgg gtggctgaga      480
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ttagatctac tgagccacaa tactgatggc gctacctttg aagagtttga gcaacaagaa      660
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<210> 10
<211> 693
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<220>
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gaggggtgtg agaccatgaa gcttaaagtc actaaggggtg cgcctttgcc attttctatt      180
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actacttaca aatcaaaaaa gggcttgagg gtgccaccgt atcacttcgt tgaccacaaa      600
ctagatgtac tgagccacaa caccgatggg gttacctttg aagaatttga gcaacgagaa      660
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<223> forward primer

<400> 12
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<210> 13
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<223> reverse primer

<400> 13
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<210> 14
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<212> DNA
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<223> forward primer

<400> 14
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<210> 15
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<223> reverse primer

<400> 15
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<210> 16
<211> 230
<212> PRT
<213> Artificial Sequence

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<223> Mutant polypeptide having fluorescent property

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Rk14145PCT_sequence.txt

Lys Leu His Met Asp Gly Met Val Asn Gly His Ser Phe Glu Ile Lys
 20 25 30

Gly Glu Gly Lys Gly Ser Pro Tyr Glu Gly Val Gln Thr Met Lys Leu
 35 40 45

Lys Val Thr Lys Gly Ala Pro Leu Pro Phe Ser Ile Asp Ile Leu Leu
 50 55 60

Pro Gln Cys Met Tyr Gly Ser Lys Pro Phe Ile Lys Tyr Pro Glu Asn
 65 70 75 80

Ile Pro Asp Tyr Ile Lys Leu Ser Phe Pro Glu Gly Ile Thr Trp Glu
 85 90 95

Arg Thr Met Thr Phe Glu Asp Gly Ala Val Cys Asp Val Ser Asn Asp
 100 105 110

Ser Arg Leu Val Gly Asn Cys Phe Ile Tyr Thr Val Lys Phe Gln Gly
 115 120 125

Val Asn Phe Pro Leu Asp Gly Pro Val Met Gln Lys Lys Thr Arg Gly
 130 135 140

Trp Glu Pro Ser Thr Glu Val Leu Tyr Glu Cys Asp Gly Trp Met Arg
 145 150 155 160

Gly Leu Val Asp Ile Ala Leu Lys Leu Glu Asn Gly Gly His Tyr Thr
 165 170 175

Cys Asn Phe Lys Thr Thr Tyr Lys Ser Lys Lys Gly Leu Glu Val Pro
 180 185 190

Pro Tyr His Phe Val Asp His Lys Leu Asp Leu Leu Ser His Asn Thr
 195 200 205

Asp Gly Ala Thr Phe Glu Glu Phe Glu Gln Gly Glu Ile Ala His Ala
 210 215 220

His Leu Ser Lys Leu Ala
 225 230

<210> 17
 <211> 693
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Mutant gene coding for polypeptide having fluorescent property

<400> 17
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 Page 10

Rk14145PCT_sequence.txt

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atcgctcacg cgacttgag taaactggcc tga 693

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<210> 18
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 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Mutant polypeptide having fluorescent property

<400> 18

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Lys Leu His Met Asp Gly Met Val Asn Gly His Ser Phe Glu Ile Lys
 20 25 30

Gly Glu Gly Lys Gly Ser Pro Tyr Glu Gly Val Gln Thr Met Lys Leu
 35 40 45

Lys Val Thr Lys Gly Ala Pro Leu Pro Phe Ser Ile Asp Ile Leu Leu
 50 55 60

Pro Gln Cys Met Tyr Gly Ser Lys Pro Phe Ile Lys Tyr Pro Glu Asn
 65 70 75 80

Ile Pro Asp Tyr Leu Lys Leu Ser Phe Pro Glu Gly Ile Thr Trp Glu
 85 90 95

Arg Thr Met Thr Phe Glu Asp Gly Ala Val Cys Asp Val Ser Asn Asp
 100 105 110

Ser Arg Leu Val Gly Asn Cys Phe Ile Tyr Thr Val Lys Phe Gln Gly
 115 120 125

Val Asn Phe Pro Leu Asp Gly Pro Val Met Gln Lys Lys Thr Arg Gly
 130 135 140

Rk14145PCT_sequence.txt

Trp Glu Pro Ser Thr Glu Val Leu Tyr Glu Cys Asp Gly Trp Met Arg
145 150 155 160

Gly Leu Val Asp Ile Ala Leu Lys Leu Glu Asn Gly Gly His Tyr Met
165 170 175

Cys Asn Phe Lys Thr Thr Tyr Lys Ser Lys Lys Gly Leu Glu Val Pro
180 185 190

Pro Tyr His Phe Val Asp His Lys Leu Asp Leu Leu Ser His Asn Thr
195 200 205

Asp Gly Ala Thr Phe Glu Glu Phe Glu Gln Gly Glu Ile Ala His Ala
210 215 220

His Leu Ser Lys Leu Ala
225 230

<210> 19
<211> 693
<212> DNA
<213> Artificial

<220>
<223> Mutant gene coding for polypeptide having fluorescent property

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gaggggggtgc agacaatgaa gctgaagggt actaaggcg cccacttcc cttctctata 180
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ctcgacctgc tcagtcataa caccgacgga gccacctttg aggagtgcga acaagggtgaa 660
atcgctcacg cgcacttgag taaactggcc tga 693