

_Sequence_Listing_10_25_16_ST25
SEQUENCE LISTING

<110> Genentech, Inc.
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KIRCHHOFFER, Daniel K.
LAI, Joyce
LEE, Chingwei V.
LIANG, Wei-Ching
LIPARI, Michael T.
LOYET, Kelly M.
SAI, Tao
VAN LOOKEREN CAMPAGNE, Menno
WU, Yan
FUH, Germaine

<120> ANTI-HtrA1 ANTIBODIES AND METHODS OF USE THEREOF

<130> 50474-117W04

<150> US 62/411,113
<151> 2016-10-21

<150> US 62/345,669
<151> 2016-06-03

<150> US 62/248,871
<151> 2015-10-30

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<170> PatentIn version 3.5

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<223> Xaa is Met or Leu

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Sequence_Listing_10_25_16_ST25

Asp Ser Glu Xaa His
1 5

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Gly Val Asp Pro Glu Thr Xaa Gly Ala Ala Tyr Asn Gln Lys Phe Lys
1 5 10 15

Gly

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Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr
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Arg Ala Ser Ser Ser Val Xaa Phe Ile His
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Ala Thr Ser Xaa Leu Ala Ser
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Sequence_Listing_10_25_16_ST25

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Gln Gln Trp Xaa Ser Xaa Pro Trp Thr
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Asp Ser Glu Met His
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Gly Val Asp Pro Glu Thr Glu Gly Ala Ala Tyr Asn Gln Lys Phe Lys
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Gly

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Arg Ala Ser Ser Ser Val Glu Phe Ile His
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Ala Thr Ser Asn Leu Ala Ser
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<400> 11

Gln Gln Trp Ser Ser Ala Pro Trp Thr
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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
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Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Xaa Phe Xaa
20 25 30

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<400> 13

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile Gly
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<400> 14

Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr Leu Glu
1 5 10 15

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Thr Arg

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Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Lys Phe Thr
20 25 30

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Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
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Asp Arg Val Thr Ile Thr Cys
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Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
1 5 10 15

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<400> 19

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
20 25 30

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Phe Gly Gln Gly Thr Lys Val Glu Ile Lys

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<400> 21

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Lys Phe Thr Asp Ser
20 25 30

Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Gly Val Asp Pro Glu Thr Glu Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
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<400> 22

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Glu Phe Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
35 40 45

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Ala Pro Trp Thr
85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
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<210> 23

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<400> 23

Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ala
1 5 10 15

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Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Ser
20 25 30

Glu Met His Trp Val Lys Gln Thr Pro Val His Gly Leu Glu Trp Ile
35 40 45

Gly Gly Val Asp Pro Glu Thr Asp Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Ser Val Thr Val Ser Ser
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<400> 24

Gln Ile Val Leu Ser Gln Ser Pro Ala Ile Leu Ser Ala Ser Pro Gly
1 5 10 15

Glu Lys Val Thr Met Thr Cys Arg Ala Ser Ser Ser Val Asn Phe Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Ser Ser Pro Lys Pro Trp Ile Ser

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35

40

45

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Pro Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Val Glu Ala Glu
65 70 75 80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Trp Thr
85 90 95

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105

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<400> 25

Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ala
1 5 10 15

Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr
20 25 30

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<400> 26

Trp Val Lys Gln Thr Pro Val His Gly Leu Glu Trp Ile Gly

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1 5 10

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<400> 27

Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr Met Glu
1 5 10 15

Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Thr Arg
20 25 30

<210> 28
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<212> PRT
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<400> 28

Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
1 5 10

<210> 29
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<400> 29

Asn Ile Val Val Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly
1 5 10 15

_Sequence_Listing_10_25_16_ST25

Gln Arg Ala Thr Ile Ser Cys
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<400> 30

Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr
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<400> 31

Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Arg Thr Asp Phe Thr
1 5 10 15

Leu Thr Ile Asp Pro Val Glu Ala Asp Asp Ala Ala Thr Tyr Tyr Cys
20 25 30

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Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys

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Ser Tyr Ile Met Ser

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Tyr	Ile	Ser	Asn	Gly	Gly	Gly	Thr	Thr	Tyr	Tyr	Ser	Asp	Thr	Ile	Lys
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Gly

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<400> 41

Gln	Asn	Phe	Arg	Ser	Asp	Gly	Ser	Ser	Met	Asp	Tyr
1				5					10		

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<400> 42

Arg	Ala	Ser	Glu	Ser	Val	Asp	Ser	Tyr	Gly	Lys	Ser	Phe	Met	His
1				5					10					15

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Leu Ala Ser Lys Leu Glu Ser
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Gln Gln Asn Asn Glu Asp Pro Tyr Thr
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<400> 45

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Ile Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Ser Asn Gly Gly Gly Thr Thr Tyr Tyr Ser Asp Thr Ile

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50

55

60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Gln Asn Phe Arg Ser Asp Gly Ser Ser Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

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Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Arg Ala Ser Glu Ser Val Asp Ser Tyr
20 25 30

Gly Lys Ser Phe Met His Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
35 40 45

Lys Leu Leu Ile Tyr Leu Ala Ser Lys Leu Glu Ser Gly Val Pro Asp
50 55 60

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
65 70 75 80

_Sequence_Listing_10_25_16_ST25

Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln Asn Asn
85 90 95

Glu Asp Pro Tyr Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105 110

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<400> 47

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
20 25 30

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<400> 48

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
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_Sequence_Listing_10_25_16_ST25

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Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
20 25 30

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Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
1 5 10

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<400> 51

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys
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Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Gln	Pro	Pro	Lys	Leu	Leu	Ile	Tyr
1				5					10					15

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<400> 53

Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr
1				5					10					15	

Leu	Thr	Ile	Ser	Ser	Leu	Gln	Ala	Glu	Asp	Val	Ala	Val	Tyr	Tyr	Cys
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Phe	Gly	Gln	Gly	Thr	Lys	Val	Glu	Ile	Lys
1				5					10

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Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Glu Pro Gly Gly
1 5 10 15

Ser Leu Lys Leu Ala Cys Val Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Ile Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val
35 40 45

Ala Tyr Ile Ser Asn Gly Gly Gly Thr Thr Tyr Tyr Ser Asp Thr Ile
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Ser Thr Leu Lys Ser Glu Asp Thr Ala Ile Tyr Phe Cys
85 90 95

Ala Arg Gln Asn Phe Arg Ser Asp Gly Ser Ser Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Ala Val Thr Val Ser Ser
115 120

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<400> 56

Asn Ile Val Val Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly
1 5 10 15

_Sequence_Listing_10_25_16_ST25

Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Asp Ser Tyr
20 25 30

Gly Lys Ser Phe Met His Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
35 40 45

Lys Leu Leu Ile Tyr Leu Ala Ser Lys Leu Glu Ser Gly Val Pro Ala
50 55 60

Arg Phe Ser Gly Ser Gly Ser Arg Thr Asp Phe Thr Leu Thr Ile Asp
65 70 75 80

Pro Val Glu Ala Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Asn Asn
85 90 95

Glu Asp Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

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<400> 57

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Glu Pro Gly Gly
1 5 10 15

Ser Leu Lys Leu Ala Cys Val Ala Ser Gly Phe Thr Phe Ser
20 25 30

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<400> 58

Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val Ala
1 5 10

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<400> 59

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu Gln
1 5 10 15

Met Ser Thr Leu Lys Ser Glu Asp Thr Ala Ile Tyr Phe Cys Ala Arg
20 25 30

<210> 60

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<400> 60

Trp Gly Gln Gly Thr Ala Val Thr Val Ser Ser
1 5 10

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_Sequence_Listing_10_25_16_ST25

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Asn Ile Val Val Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Gln Arg Ala Thr Ile Ser Cys
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<400> 62

Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr
1 5 10 15

<210> 63

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<212> PRT

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<220>

<223> Synthetic Construct

<400> 63

Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Arg Thr Asp Phe Thr
1 5 10 15

Leu Thr Ile Asp Pro Val Glu Ala Asp Asp Ala Ala Thr Tyr Tyr Cys
20 25 30

<210> 64

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Sequence_Listing_10_25_16_ST25

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<400> 64

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
1 5 10

<210> 65

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<212> PRT

<213> Artificial Sequence

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<400> 65

Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Ile Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val
35 40 45

Ala Tyr Ile Ser Asn Gly Gly Gly Thr Thr Tyr Tyr Pro Asp Thr Ile
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Thr Leu Lys Ser Glu Asp Thr Ala Ile Tyr Phe Cys
85 90 95

Ala Arg Gln Asn Phe Arg Ser Asp Gly Ser Ser Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Ser Val Thr Val Ser Ser

_Sequence_Listing_10_25_16_ST25
120

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<220>
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<400> 66

Asn Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Asp Thr Ser
20 25 30

Gly Arg Ser Phe Met His Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
35 40 45

Arg Leu Leu Ile Tyr Leu Ala Ser Lys Leu Glu Ser Gly Val Pro Ala
50 55 60

Arg Phe Ser Gly Ser Gly Ser Arg Thr Asp Phe Thr Leu Thr Ile Asp
65 70 75 80

Pro Val Glu Ala Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Asn Asn
85 90 95

Glu Asp Pro Tyr Thr Phe Gly Gly Gly Thr Asn Leu Glu Ile Lys
100 105 110

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_Sequence_Listing_10_25_16_ST25

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Asp Val His Leu Val Glu Ser Gly Gly Gly Leu Val Arg Pro Gly Gly
1 5 10 15

Ser Arg Lys Leu Ser Cys Glu Ala Ser Gly Phe Thr Phe Ser Ser Phe
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Glu Lys Gly Leu Glu Trp Val
35 40 45

Ala Phe Ile Thr Ser Asp Ser Ser Thr Ile Tyr Tyr Ala Asp Thr Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Pro Lys Asn Thr Leu Phe
65 70 75 80

Leu Gln Met Thr Ser Leu Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys
85 90 95

Thr Arg Ser Gly Asp Asp Tyr Leu Asp Tyr Trp Gly Gln Gly Thr Thr
100 105 110

Leu Thr Val Ser Ser
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<210> 68

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<400> 68

Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Sequence_Listing_10_25_16_ST25

Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Gln Ser Val Ser Thr Ser
20 25 30

Ser Ser Ser Tyr Met His Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
35 40 45

Lys Val Phe Ile Lys Tyr Ala Ser Asn Leu Glu Ser Gly Val Pro Ala
50 55 60

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Ser Ile His
65 70 75 80

Pro Val Glu Glu Glu Asp Thr Ala Thr Tyr Tyr Cys Gln His Ser Trp
85 90 95

Glu Ile Pro Phe Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 69
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<400> 69

Glu Val Met Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15

Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Val Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val
35 40 45

Ala Ala Ile Ser Gly Gly Gly Asp Tyr Thr Tyr Tyr Pro Asp Ser Leu

_Sequence_Listing_10_25_16_ST25

50

55

60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Arg Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys
85 90 95

Ala Arg Val Asp Tyr Asp Glu Tyr Ser Phe Glu Tyr Trp Gly Gln Gly
100 105 110

Thr Ala Leu Thr Val Ser Ser
115

<210> 70

<211> 111

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 70

Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Asp Asn Tyr
20 25 30

Gly Ile Ser Phe Met Asn Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro
35 40 45

Lys Leu Leu Ile Tyr Ala Ala Ser Asn Gln Gly Ser Gly Val Pro Ala
50 55 60

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Ser Leu Asn Ile His
65 70 75 80

_Sequence_Listing_10_25_16_ST25

Pro Met Glu Glu Asp Asp Thr Ala Met Tyr Phe Cys Gln Gln Ser Lys
85 90 95

Glu Val Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 71
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 71

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Ser Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Ser Tyr Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 72

_Sequence_Listing_10_25_16_ST25

<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 72

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Asn Phe Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Trp Ile Ser
35 40 45

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Trp Thr
85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 73
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 73

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly

_Sequence_Listing_10_25_16_ST25

1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Asn Phe Ile
 20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
 35 40 45

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Trp Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 74
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 74

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Asn Phe Ile
 20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
 35 40 45

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Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Ala Pro Trp Thr
85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 75

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 75

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Tyr Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Trp Ile Asn Pro Gly Ser Gly Asn Thr Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys

_Sequence_Listing_10_25_16_ST25

85

90

95

Ala Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
100 105 110

<210> 76

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 76

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Ser
20 25 30

Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Gly Val Asp Pro Glu Thr Asp Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Leu Thr Ala Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

_Sequence_Listing_10_25_16_ST25

<210> 77
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 77

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Ser
20 25 30

Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Gly Val Asp Pro Glu Thr Asp Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 78
<211> 119
<212> PRT
<213> Artificial Sequence

Sequence_Listing_10_25_16_ST25

<220>

<223> Synthetic Construct

<400> 78

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Ser
20 25 30

Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Gly Val Asp Pro Glu Thr Glu Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 79

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 79

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly

_Sequence_Listing_10_25_16_ST25

1	5	10	15
Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser	20	25	30
Ser Asn Asn Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln	35	40	45
Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val	50	55	60
Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr	65	70	75
Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln	85	90	95
Tyr Tyr Ser Thr Pro Phe Thr Phe Gly Gln Gly Thr Lys Val Glu Ile	100	105	110

Lys

<210> 80
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 80

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly	1	5	10	15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr	20	25	30	

Sequence_Listing_10_25_16_ST25

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Gly Ala Ile Ser Ser Ser Gly Ser Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
100 105 110

<210> 81
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 81

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Arg Val Asn Phe Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
35 40 45

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu

65 70 75 80

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<220>
<223> Synthetic Construct

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
35 40 45

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

_Sequence_Listing_10_25_16_ST25

<210> 83
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 83

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Glu Phe Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
35 40 45

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Trp Thr
85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 84
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 84

Sequence_Listing_10_25_16_ST25

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Asn Phe Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
35 40 45

Ala Thr Ser His Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Trp Thr
85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 85

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 85

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Asn Phe Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser

Sequence_Listing_10_25_16_ST25

35

40

45

Ala Thr Ser Glu Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Trp Thr
85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 86

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 86

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Asn Phe Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
35 40 45

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

_Sequence_Listing_10_25_16_ST25

Asp Phe Ala Thr Tyr Tyr Cys His Gln Trp Ser Ser Asn Pro Trp Thr
85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 87
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 87

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Asn Phe Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
35 40 45

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Tyr Ser Asn Pro Trp Thr
85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 88

_Sequence_Listing_10_25_16_ST25

<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 88

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Asn Phe Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
35 40 45

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Lys Ser Asn Pro Trp Thr
85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 89
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 89

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly

_Sequence_Listing_10_25_16_ST25

1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Asn Phe Ile
 20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
 35 40 45

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ile Asn Pro Trp Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 90
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 90

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Asn Val Ile
 20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
 35 40 45

Sequence_Listing_10_25_16_ST25

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Lys Ser Asn Pro Trp Thr
85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 91

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 91

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Glu Phe Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
35 40 45

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Tyr Ser Asn Pro Trp Thr

_Sequence_Listing_10_25_16_ST25

85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 92
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 92

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Glu Phe Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
35 40 45

Ala Thr Ser His Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Tyr Ser Asn Pro Trp Thr
85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 93
<211> 119
<212> PRT

_Sequence_Listing_10_25_16_ST25

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 93

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Lys Asp Ser
20 25 30

Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Gly Val Asp Pro Glu Thr Asp Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 94

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 94

Sequence_Listing_10_25_16_ST25

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Arg Asp Ser
20 25 30

Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Gly Val Asp Pro Glu Thr Asp Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 95
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 95

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Lys Phe Thr Asp Ser

_Sequence_Listing_10_25_16_ST25

20

25

30

Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Gly Val Asp Pro Glu Thr Asp Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 96

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 96

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Arg Phe Thr Asp Ser
20 25 30

Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

_Sequence_Listing_10_25_16_ST25

Gly Gly Val Asp Pro Glu Thr Asp Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 97
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 97

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Ser
20 25 30

Glu Leu His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Gly Val Asp Pro Glu Thr Asp Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr

Sequence_Listing_10_25_16_ST25

65					70					75						80
Leu	Glu	Leu	Ser	Ser	Leu	Arg	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys	
			85						90					95		
Thr	Arg	Gly	Tyr	Asp	Tyr	Asp	Tyr	Ala	Leu	Asp	Tyr	Trp	Gly	Gln	Gly	
			100					105					110			
Thr	Leu	Val	Thr	Val	Ser	Ser										
		115														
<210>	98															
<211>	119															
<212>	PRT															
<213>	Artificial Sequence															
<220>																
<223>	Synthetic Construct															
<400>	98															
Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Ala	
1			5						10					15		
Ser	Val	Lys	Val	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	Thr	Asp	Ser	
			20					25					30			
Glu	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Gln	Gly	Leu	Glu	Trp	Ile	
		35				40						45				
Gly	Gly	Val	Asp	Pro	Ala	Thr	Asp	Gly	Ala	Ala	Tyr	Asn	Gln	Lys	Phe	
	50					55					60					
Lys	Gly	Arg	Ala	Thr	Ile	Thr	Arg	Asp	Thr	Ser	Thr	Ser	Thr	Ala	Tyr	
65					70				75						80	
Leu	Glu	Leu	Ser	Ser	Leu	Arg	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys	
			85						90					95		

_Sequence_Listing_10_25_16_ST25

Thr Arg Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 99

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 99

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Ser
20 25 30

Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Gly Val Asp Pro Glu Thr Asp Gly Ala Phe Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser

Sequence_Listing_10_25_16_ST25

115

<210> 100
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 100

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Ser
20 25 30

Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Gly Val Asp Pro Glu Thr Asp Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Gly Tyr Asp Tyr Asp Ile Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 101
<211> 119
<212> PRT

_Sequence_Listing_10_25_16_ST25

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 101

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Ser
20 25 30

Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Gly Val Asp Pro Glu Thr Asp Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Gly Tyr Asp Tyr Asp Tyr Pro Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 102

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 102

_Sequence_Listing_10_25_16_ST25

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Lys Phe Lys Asp Ser
20 25 30

Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Gly Val Asp Pro Glu Thr Asp Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 103

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 103

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Lys Phe Arg Asp Ser

_Sequence_Listing_10_25_16_ST25

20

25

30

Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Gly Val Asp Pro Glu Thr Asp Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 104

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 104

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Lys Asp Ser
20 25 30

Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

_Sequence_Listing_10_25_16_ST25

Gly Gly Val Asp Pro Glu Thr Glu Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 105
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 105

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Glu Phe Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
35 40 45

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu

65 70 75 80

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<220>
<223> Synthetic Construct

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Gly Val Asp Pro Glu Thr Glu Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

_Sequence_Listing_10_25_16_ST25

Thr Leu Val Thr Val Ser Ser
115

<210> 107

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 107

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Lys Phe Arg Asp Ser
20 25 30

Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Gly Val Asp Pro Glu Thr Glu Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 108

_Sequence_Listing_10_25_16_ST25

<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 108

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Glu Phe Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
35 40 45

Ala Thr Ser His Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Tyr Ser Ala Pro Trp Thr
85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 109
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 109

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Asn

_Sequence_Listing_10_25_16_ST25

1 5 10

<210> 110
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> MISC_FEATURE
<222> (13)..(13)
<223> Xaa is Asp or Glu

<400> 110

Trp Ile Asn Thr Tyr Thr Gly Glu Thr Thr Tyr Ala Xaa Asp Phe Lys
1 5 10 15

Gly

<210> 111
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Xaa is Asn or Ser

<400> 111

Glu Gly Gly Val Xaa Asn
1 5

<210> 112

_Sequence_Listing_10_25_16_ST25

<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Xaa is Asp or Ser

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Xaa is Asp or Glu

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> Xaa is Asp or Ser

<400> 112

Ile Thr Ser Thr Xaa Ile Xaa Xaa Asp Met Asn
1 5 10

<210> 113
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 113

Gly Gly Asn Thr Leu Arg Pro
1 5

<210> 114
<211> 9
<212> PRT
<213> Artificial Sequence

Sequence_Listing_10_25_16_ST25

<220>

<223> Synthetic Construct

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> Xaa is Asp or Glu

<400> 114

Leu Gln Ser Xaa Ser Leu Pro Tyr Thr
1 5

<210> 115

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 115

Trp Ile Asn Thr Tyr Thr Gly Glu Thr Thr Tyr Ala Asp Asp Phe Lys
1 5 10 15

Gly

<210> 116

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 116

Glu Gly Gly Val Asn Asn
1 5

<210> 117

_Sequence_Listing_10_25_16_ST25

<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 117

Ile Thr Ser Thr Asp Ile Asp Asp Asp Met Asn
1 5 10

<210> 118
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 118

Leu Gln Ser Asp Ser Leu Pro Tyr Thr
1 5

<210> 119
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 119

Glu Val Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Sequence_Listing_10_25_16_ST25

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Thr Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Glu Arg Glu Gly Gly Val Asn Asn Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 120
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 120

Asp Ile Gln Val Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ile Thr Ser Thr Asp Ile Asp Asp Asp
20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Lys Val Pro Lys Leu Leu Ile
35 40 45

Ser Gly Gly Asn Thr Leu Arg Pro Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro

_Sequence_Listing_10_25_16_ST25

65	70	75	80
Glu Asp Val Ala Thr Tyr Tyr Cys Leu Gln Ser Asp Ser Leu Pro Tyr	85	90	95
Thr Phe Gly Gln Thr Lys Val Glu Ile Lys	100	105	
<210>	121		
<211>	480		
<212>	PRT		
<213>	Homo sapiens		
<400>	121		
Met Gln Ile Pro Arg Ala Ala Leu Leu Pro Leu Leu Leu Leu Leu	5	10	15
1			
Ala Ala Pro Ala Ser Ala Gln Leu Ser Arg Ala Gly Arg Ser Ala Pro	20	25	30
Leu Ala Ala Gly Cys Pro Asp Arg Cys Glu Pro Ala Arg Cys Pro Pro	35	40	45
Gln Pro Glu His Cys Glu Gly Gly Arg Ala Arg Asp Ala Cys Gly Cys	50	55	60
Cys Glu Val Cys Gly Ala Pro Glu Gly Ala Ala Cys Gly Leu Gln Glu	65	70	75
65			80
Gly Pro Cys Gly Glu Gly Leu Gln Cys Val Val Pro Phe Gly Val Pro	85	90	95
Ala Ser Ala Thr Val Arg Arg Arg Ala Gln Ala Gly Leu Cys Val Cys	100	105	110
Ala Ser Ser Glu Pro Val Cys Gly Ser Asp Ala Asn Thr Tyr Ala Asn	115	120	125

_Sequence_Listing_10_25_16_ST25

Leu Cys Gln Leu Arg Ala Ala Ser Arg Arg Ser Glu Arg Leu His Arg
130 135 140

Pro Pro Val Ile Val Leu Gln Arg Gly Ala Cys Gly Gln Gly Gln Glu
145 150 155 160

Asp Pro Asn Ser Leu Arg His Lys Tyr Asn Phe Ile Ala Asp Val Val
165 170 175

Glu Lys Ile Ala Pro Ala Val Val His Ile Glu Leu Phe Arg Lys Leu
180 185 190

Pro Phe Ser Lys Arg Glu Val Pro Val Ala Ser Gly Ser Gly Phe Ile
195 200 205

Val Ser Glu Asp Gly Leu Ile Val Thr Asn Ala His Val Val Thr Asn
210 215 220

Lys His Arg Val Lys Val Glu Leu Lys Asn Gly Ala Thr Tyr Glu Ala
225 230 235 240

Lys Ile Lys Asp Val Asp Glu Lys Ala Asp Ile Ala Leu Ile Lys Ile
245 250 255

Asp His Gln Gly Lys Leu Pro Val Leu Leu Leu Gly Arg Ser Ser Glu
260 265 270

Leu Arg Pro Gly Glu Phe Val Val Ala Ile Gly Ser Pro Phe Ser Leu
275 280 285

Gln Asn Thr Val Thr Thr Gly Ile Val Ser Thr Thr Gln Arg Gly Gly
290 295 300

Lys Glu Leu Gly Leu Arg Asn Ser Asp Met Asp Tyr Ile Gln Thr Asp
305 310 315 320

_Sequence_Listing_10_25_16_ST25

Ala Ile Ile Asn Tyr Gly Asn Ser Gly Gly Pro Leu Val Asn Leu Asp
325 330 335

Gly Glu Val Ile Gly Ile Asn Thr Leu Lys Val Thr Ala Gly Ile Ser
340 345 350

Phe Ala Ile Pro Ser Asp Lys Ile Lys Lys Phe Leu Thr Glu Ser His
355 360 365

Asp Arg Gln Ala Lys Gly Lys Ala Ile Thr Lys Lys Lys Tyr Ile Gly
370 375 380

Ile Arg Met Met Ser Leu Thr Ser Ser Lys Ala Lys Glu Leu Lys Asp
385 390 395 400

Arg His Arg Asp Phe Pro Asp Val Ile Ser Gly Ala Tyr Ile Ile Glu
405 410 415

Val Ile Pro Asp Thr Pro Ala Glu Ala Gly Gly Leu Lys Glu Asn Asp
420 425 430

Val Ile Ile Ser Ile Asn Gly Gln Ser Val Val Ser Ala Asn Asp Val
435 440 445

Ser Asp Val Ile Lys Arg Glu Ser Thr Leu Asn Met Val Val Arg Arg
450 455 460

Gly Asn Glu Asp Ile Met Ile Thr Val Ile Pro Glu Glu Ile Asp Pro
465 470 475 480

<210> 122

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

_Sequence_Listing_10_25_16_ST25

<223> Synthetic Construct

<400> 122

Cys Pro Pro Cys

1

<210> 123

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 123

Gly Val Asp Pro Glu Thr Asp Gly Ala Ala Tyr Asn Gln Lys Phe Lys

1

5

10

15

Gly

<210> 124

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 124

Arg Ala Ser Ser Ser Val Asn Phe Ile His

1

5

10

<210> 125

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

_Sequence_Listing_10_25_16_ST25

<400> 125

Gln Gln Trp Ser Ser Asn Pro Trp Thr
1 5

<210> 126

<211> 253

<212> PRT

<213> Homo sapiens

<400> 126

Met His Ser Trp Glu Arg Leu Ala Val Leu Val Leu Leu Gly Ala Ala
1 5 10 15

Ala Cys Ala Ala Pro Pro Arg Gly Arg Ile Leu Gly Gly Arg Glu Ala
20 25 30

Glu Ala His Ala Arg Pro Tyr Met Ala Ser Val Gln Leu Asn Gly Ala
35 40 45

His Leu Cys Gly Gly Val Leu Val Ala Glu Gln Trp Val Leu Ser Ala
50 55 60

Ala His Cys Leu Glu Asp Ala Ala Asp Gly Lys Val Gln Val Leu Leu
65 70 75 80

Gly Ala His Ser Leu Ser Gln Pro Glu Pro Ser Lys Arg Leu Tyr Asp
85 90 95

Val Leu Arg Ala Val Pro His Pro Asp Ser Gln Pro Asp Thr Ile Asp
100 105 110

His Asp Leu Leu Leu Leu Gln Leu Ser Glu Lys Ala Thr Leu Gly Pro
115 120 125

Ala Val Arg Pro Leu Pro Trp Gln Arg Val Asp Arg Asp Val Ala Pro
130 135 140

_Sequence_Listing_10_25_16_ST25

Gly Thr Leu Cys Asp Val Ala Gly Trp Gly Ile Val Asn His Ala Gly
145 150 155 160

Arg Arg Pro Asp Ser Leu Gln His Val Leu Leu Pro Val Leu Asp Arg
165 170 175

Ala Thr Cys Asn Arg Arg Thr His His Asp Gly Ala Ile Thr Glu Arg
180 185 190

Leu Met Cys Ala Glu Ser Asn Arg Arg Asp Ser Cys Lys Gly Asp Ser
195 200 205

Gly Gly Pro Leu Val Cys Gly Gly Val Leu Glu Gly Val Val Thr Ser
210 215 220

Gly Ser Arg Val Cys Gly Asn Arg Lys Lys Pro Gly Ile Tyr Thr Arg
225 230 235 240

Val Ala Ser Tyr Ala Ala Trp Ile Asp Ser Val Leu Ala
245 250

<210> 127
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 127

Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Tyr Met Tyr Trp Val Lys Glu Arg Pro Gly Gln Gly Leu Glu Trp Ile

_Sequence_Listing_10_25_16_ST25

35

40

45

Gly Glu Ile Asn Pro Thr Asn Gly Gly Thr Asn Phe Asn Glu Lys Phe
50 55 60

Lys Ser Lys Ala Thr Leu Thr Val Asp Thr Ser Ser Asn Thr Ala Tyr
65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Gly Gly Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ala
115

<210> 128

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 128

Asp Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly
1 5 10 15

Asp Arg Val Ser Val Thr Cys Lys Ala Ser Gln Asn Val Asp Thr Asp
20 25 30

Val Ala Trp Phe Gln Gln Lys Pro Gly Gln Ser Pro Arg Gly Leu Ile
35 40 45

Tyr Ser Ala Ser Ser Arg Tyr Ser Gly Val Pro Asp Arg Phe Thr Gly
50 55 60

Sequence_Listing_10_25_16_ST25

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Val Gln Ser
65 70 75 80

Glu Asp Leu Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Asn Tyr Pro Leu
85 90 95

Thr Phe Gly Ser Gly Thr Lys Val Glu Ile Lys
100 105

<210> 129

<211> 464

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 129

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
1 5 10 15

Ala Tyr Ala Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys
20 25 30

Pro Gly Ala Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe
35 40 45

Thr Ser Tyr Tyr Met Tyr Trp Val Lys Glu Arg Pro Gly Gln Gly Leu
50 55 60

Glu Trp Ile Gly Glu Ile Asn Pro Thr Asn Gly Gly Thr Asn Phe Asn
65 70 75 80

Glu Lys Phe Lys Ser Lys Ala Thr Leu Thr Val Asp Thr Ser Ser Asn
85 90 95

Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val

_Sequence_Listing_10_25_16_ST25

100

105

110

Tyr Tyr Cys Ala Arg Glu Gly Gly Phe Ala Tyr Trp Gly Gln Gly Thr
115 120 125

Leu Val Thr Val Ser Ala Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
130 135 140

Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly
145 150 155 160

Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn
165 170 175

Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln
180 185 190

Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser
195 200 205

Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser
210 215 220

Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr
225 230 235 240

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
245 250 255

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
260 265 270

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
275 280 285

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala

_Sequence_Listing_10_25_16_ST25

290

295

300

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
305 310 315 320

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
325 330 335

Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
340 345 350

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
355 360 365

Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys
370 375 380

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
385 390 395 400

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
405 410 415

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
420 425 430

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
435 440 445

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
450 455 460

<210> 130

<211> 233

<212> PRT

<213> Artificial Sequence

Sequence_Listing_10_25_16_ST25

<220>

<223> Synthetic Construct

<400> 130

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
1 5 10 15

Val His Ser Asp Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr
20 25 30

Ser Val Gly Asp Arg Val Ser Val Thr Cys Lys Ala Ser Gln Asn Val
35 40 45

Asp Thr Asp Val Ala Trp Phe Gln Gln Lys Pro Gly Gln Ser Pro Arg
50 55 60

Gly Leu Ile Tyr Ser Ala Ser Ser Arg Tyr Ser Gly Val Pro Asp Arg
65 70 75 80

Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn
85 90 95

Val Gln Ser Glu Asp Leu Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Asn
100 105 110

Tyr Pro Leu Thr Phe Gly Ser Gly Thr Lys Val Glu Ile Lys Arg Thr
115 120 125

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu
130 135 140

Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro
145 150 155 160

Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly
165 170 175

Sequence_Listing_10_25_16_ST25

Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr
180 185 190

Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His
195 200 205

Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val
210 215 220

Thr Lys Ser Phe Asn Arg Gly Glu Cys
225 230

<210> 131
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 131

Glu Val Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Thr Thr Tyr Ala Glu Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys

_Sequence_Listing_10_25_16_ST25

85 90 95

Glu Arg Glu Gly Gly Val Asn Asn Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 132
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 132

Glu Val Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Thr Thr Tyr Ala Glu Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Glu Arg Glu Gly Gly Val Ser Asn Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

_Sequence_Listing_10_25_16_ST25

Val Ser Ser
115

<210> 133
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 133

Asp Ile Gln Val Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ile Thr Ser Thr Asp Ile Glu Ser Asp
20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Lys Val Pro Lys Leu Leu Ile
35 40 45

Ser Gly Gly Asn Thr Leu Arg Pro Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Val Ala Thr Tyr Tyr Cys Leu Gln Ser Asp Ser Leu Pro Tyr
85 90 95

Thr Phe Gly Gln Thr Lys Val Glu Ile Lys
100 105

<210> 134
<211> 106
<212> PRT
<213> Artificial Sequence

_Sequence_Listing_10_25_16_ST25

<220>

<223> Synthetic Construct

<400> 134

Asp Ile Gln Val Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ile Thr Ser Thr Asp Ile Glu Ser Asp
20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Lys Val Pro Lys Leu Leu Ile
35 40 45

Ser Gly Gly Asn Thr Leu Arg Pro Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Val Ala Thr Tyr Tyr Cys Leu Gln Ser Glu Ser Leu Pro Tyr
85 90 95

Thr Phe Gly Gln Thr Lys Val Glu Ile Lys
100 105

<210> 135

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 135

Asp Ile Gln Val Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ile Thr Ser Thr Ser Ile Glu Ser Asp

_Sequence_Listing_10_25_16_ST25

20

25

30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Lys Val Pro Lys Leu Leu Ile
35 40 45

Ser Gly Gly Asn Thr Leu Arg Pro Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Val Ala Thr Tyr Tyr Cys Leu Gln Ser Asp Ser Leu Pro Tyr
85 90 95

Thr Phe Gly Gln Thr Lys Val Glu Ile Lys
100 105

<210> 136

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 136

Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
1 5 10 15

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Asn Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Lys Trp Met
35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Thr Thr Tyr Ala Asp Asp Phe
50 55 60

_Sequence_Listing_10_25_16_ST25

Lys Gly Arg Phe Val Phe Ser Leu Glu Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Leu Glu Ile Asn Asn Leu Lys Asn Glu Asp Met Ala Thr Tyr Phe Cys
85 90 95

Glu Arg Glu Gly Gly Val Asp Asn Trp Gly Gln Gly Thr Thr Leu Thr
100 105 110

Val Ser Ser
115

<210> 137
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 137

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

Glu Lys Val Thr Ile Arg Cys Ile Thr Ser Thr Asp Ile Asp Asp Asp
20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Glu Pro Pro Lys Leu Leu Ile
35 40 45

Ser Gly Gly Asn Thr Leu Arg Pro Gly Val Pro Ser Arg Phe Ser Ser
50 55 60

Ser Gly Tyr Gly Ala Asp Phe Val Phe Thr Ile Asp Asn Met Leu Ser
65 70 75 80

Glu Asp Val Ala Asp Tyr Tyr Cys Leu Gln Ser Asp Asn Leu Pro Tyr

_Sequence_Listing_10_25_16_ST25

85

90

95

Thr Phe Gly Gly Gly Thr Arg Leu Glu Ile Lys
100 105

<210> 138

<400> 138
000

<210> 139

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 139

tttyttgtcc accktgggtgc tgc

23

<210> 140

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 140

gtagaagttg ttcaagaag

19

<210> 141

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 141

cargtcamdgc tcaactgrctc ag

22

_Sequence_Listing_10_25_16_ST25

<210>	142	
<211>	21	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic Construct	
<400>	142	
	gaggcacctc cagatgttaa c	21
<210>	143	
<211>	23	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic Construct	
<400>	143	
	actgctcact ggatgggtggg aag	23
<210>	144	
<211>	47	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic Construct	
<400>	144	
	gcaactgcaa ctggagtaca ttcacaaatt gttctctccc agtctcc	47
<210>	145	
<211>	44	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Synthetic Construct	
<400>	145	
	ggatacagtt ggtgcagcat cagcccgttt gatttccagc ttgg	44

_Sequence_Listing_10_25_16_ST25

<210> 146
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 146
gcaactgcaa ctggagcgta cgcccagggtc cagctgcagc agtctgg 47

<210> 147
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 147
gggcccttgg tggaggctga ggagacgggtg actgagggttc cttgaccc 48

<210> 148
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 148
gcaactgcaa ctggagtaca ttcaaacatt gtggtgaccc aatctcc 47

<210> 149
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 149
ggatacagtt ggtgcagcat cagcccgctt tatttccagc ttgg 44

_Sequence_Listing_10_25_16_ST25

<210> 150
 <211> 53
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 150
 gcaactgcaa ctggagcgta cgccgaggtg aagctggtgg aatctggggg agg 53

<210> 151
 <211> 48
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 151
 gggcccttgg tggaggctga ggagacggtg actgcggttc cttgaccc 48

<210> 152
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Peptide

<220>
 <221> MISC_FEATURE
 <223> N-term Mca

<220>
 <221> MOD_RES
 <222> (9)..(9)
 <223> Lys(DNP)

<400> 152

Ile Arg Arg Val Ser Tyr Ser Phe Lys Lys
 1 5 10

_Sequence_Listing_10_25_16_ST25

<210> 153
<211> 234
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 153

Met Lys His Gln His Gln His Gln His Gln His Gln His Gln Met His
1 5 10 15

Gln Ser Thr Ala Ala Ala Gly Gln Gly Gln Glu Asp Pro Asn Ser Leu
20 25 30

Arg His Lys Tyr Asn Phe Ile Ala Asp Val Val Glu Lys Ile Ala Pro
35 40 45

Ala Val Val His Ile Glu Leu Tyr Arg Lys Leu Pro Phe Ser Lys Arg
50 55 60

Glu Val Pro Val Ala Ser Gly Ser Gly Phe Ile Val Ser Glu Asp Gly
65 70 75 80

Leu Ile Val Thr Asn Ala His Val Val Thr Asn Lys Asn Arg Val Lys
85 90 95

Val Glu Leu Lys Asn Gly Ala Thr Tyr Glu Ala Lys Ile Lys Asp Val
100 105 110

Asp Glu Lys Ala Asp Ile Ala Leu Ile Lys Ile Asp His Gln Gly Lys
115 120 125

Leu Pro Val Leu Leu Leu Gly Arg Ser Ser Glu Leu Arg Pro Gly Glu
130 135 140

Phe Val Val Ala Ile Gly Ser Pro Phe Ser Leu Gln Asn Thr Val Thr
145 150 155 160

_Sequence_Listing_10_25_16_ST25

Thr Gly Ile Val Ser Thr Thr Gln Arg Gly Gly Lys Glu Leu Gly Leu
165 170 175

Arg Asn Ser Asp Met Asp Tyr Ile Gln Thr Asp Ala Ile Ile Asn Tyr
180 185 190

Gly Asn Ser Gly Gly Pro Leu Val Asn Leu Asp Gly Glu Val Ile Gly
195 200 205

Ile Asn Thr Leu Lys Val Thr Ala Gly Ile Ser Phe Ala Ile Pro Ser
210 215 220

Asp Lys Ile Lys Lys Phe Leu Thr Glu Ser
225 230

<210> 154
<211> 228
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 154

Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
1 5 10 15

Arg Gly Ser His Met Asp Pro Asn Ser Leu Arg His Lys Tyr Asn Phe
20 25 30

Ile Ala Asp Val Val Glu Lys Ile Ala Pro Ala Val Val His Ile Glu
35 40 45

Leu Phe Arg Lys Leu Pro Phe Ser Lys Arg Glu Val Pro Val Ala Ser
50 55 60

Sequence_Listing_10_25_16_ST25

Gly Ser Gly Phe Ile Val Ser Glu Asp Gly Leu Ile Val Thr Asn Ala
65 70 75 80

His Val Val Thr Asn Lys His Arg Val Lys Val Glu Leu Lys Asn Gly
85 90 95

Ala Thr Tyr Glu Ala Lys Ile Lys Asp Val Asp Glu Lys Ala Asp Ile
100 105 110

Ala Leu Ile Lys Ile Asp His Gln Gly Lys Leu Pro Val Leu Leu Leu
115 120 125

Gly Arg Ser Ser Glu Leu Arg Pro Gly Glu Phe Val Val Ala Ile Gly
130 135 140

Ser Pro Phe Ser Leu Gln Asn Thr Val Thr Thr Gly Ile Val Ser Thr
145 150 155 160

Thr Gln Arg Gly Gly Lys Glu Leu Gly Leu Arg Asn Ser Asp Met Asp
165 170 175

Tyr Ile Gln Thr Asp Ala Ile Ile Asn Tyr Gly Asn Ser Gly Gly Pro
180 185 190

Leu Val Asn Leu Asp Gly Glu Val Ile Gly Ile Asn Thr Leu Lys Val
195 200 205

Thr Ala Gly Ile Ser Phe Ala Ile Pro Ser Asp Lys Ile Lys Lys Phe
210 215 220

Leu Thr Glu Ser
225

<210> 155
<211> 480
<212> PRT
<213> Mus musculus

Sequence_Listing_10_25_16_ST25

<400> 155

Met Gln Ser Leu Arg Thr Thr Leu Leu Ser Leu Leu Leu Leu Leu
1 5 10 15

Ala Ala Pro Ser Leu Ala Leu Pro Ser Gly Thr Gly Arg Ser Ala Pro
20 25 30

Ala Ala Thr Val Cys Pro Glu His Cys Asp Pro Thr Arg Cys Ala Pro
35 40 45

Pro Pro Thr Asp Cys Glu Gly Gly Arg Val Arg Asp Ala Cys Gly Cys
50 55 60

Cys Glu Val Cys Gly Ala Leu Glu Gly Ala Ala Cys Gly Leu Gln Glu
65 70 75 80

Gly Pro Cys Gly Glu Gly Leu Gln Cys Val Val Pro Phe Gly Val Pro
85 90 95

Ala Ser Ala Thr Val Arg Arg Arg Ala Gln Ala Gly Leu Cys Val Cys
100 105 110

Ala Ser Ser Glu Pro Val Cys Gly Ser Asp Ala Lys Thr Tyr Thr Asn
115 120 125

Leu Cys Gln Leu Arg Ala Ala Ser Arg Arg Ser Glu Lys Leu Arg Gln
130 135 140

Pro Pro Val Ile Val Leu Gln Arg Gly Ala Cys Gly Gln Gly Gln Glu
145 150 155 160

Asp Pro Asn Ser Leu Arg His Lys Tyr Asn Phe Ile Ala Asp Val Val
165 170 175

Glu Lys Ile Ala Pro Ala Val Val His Ile Glu Leu Tyr Arg Lys Leu

_Sequence_Listing_10_25_16_ST25

180

185

190

Pro Phe Ser Lys Arg Glu Val Pro Val Ala Ser Gly Ser Gly Phe Ile
195 200 205

Val Ser Glu Asp Gly Leu Ile Val Thr Asn Ala His Val Val Thr Asn
210 215 220

Lys Asn Arg Val Lys Val Glu Leu Lys Asn Gly Ala Thr Tyr Glu Ala
225 230 235 240

Lys Ile Lys Asp Val Asp Glu Lys Ala Asp Ile Ala Leu Ile Lys Ile
245 250 255

Asp His Gln Gly Lys Leu Pro Val Leu Leu Leu Gly Arg Ser Ser Glu
260 265 270

Leu Arg Pro Gly Glu Phe Val Val Ala Ile Gly Ser Pro Phe Ser Leu
275 280 285

Gln Asn Thr Val Thr Thr Gly Ile Val Ser Thr Thr Gln Arg Gly Gly
290 295 300

Lys Glu Leu Gly Leu Arg Asn Ser Asp Met Asp Tyr Ile Gln Thr Asp
305 310 315 320

Ala Ile Ile Asn Tyr Gly Asn Ser Gly Gly Pro Leu Val Asn Leu Asp
325 330 335

Gly Glu Val Ile Gly Ile Asn Thr Leu Lys Val Thr Ala Gly Ile Ser
340 345 350

Phe Ala Ile Pro Ser Asp Lys Ile Lys Lys Phe Leu Thr Glu Ser His
355 360 365

Asp Arg Gln Ala Lys Gly Lys Ala Val Thr Lys Lys Lys Tyr Ile Gly

Sequence_Listing_10_25_16_ST25

370

375

380

Ile Arg Met Met Ser Leu Thr Ser Ser Lys Ala Lys Glu Leu Lys Asp
385 390 395 400

Arg His Arg Asp Phe Pro Asp Val Leu Ser Gly Ala Tyr Ile Ile Glu
405 410 415

Val Ile Pro Asp Thr Pro Ala Glu Ala Gly Gly Leu Lys Glu Asn Asp
420 425 430

Val Ile Ile Ser Ile Asn Gly Gln Ser Val Val Thr Ala Asn Asp Val
435 440 445

Ser Asp Val Ile Lys Lys Glu Asn Thr Leu Asn Met Val Val Arg Arg
450 455 460

Gly Asn Glu Asp Ile Val Ile Thr Val Ile Pro Glu Glu Ile Asp Pro
465 470 475 480

<210> 156
<211> 104
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 156

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
1 5 10 15

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

_Sequence_Listing_10_25_16_ST25

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Lys Val Glu Pro Lys Ser Cys Asp
100

<210> 157
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 157

Glu Pro Lys Ser Cys Asp Lys Thr His Thr
1 5 10

<210> 158
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 158

Pro Ala Pro Glu Leu Leu Gly Gly Pro
1 5

<210> 159
<211> 213
<212> PRT

_Sequence_Listing_10_25_16_ST25

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 159

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Glu Phe Ile
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Leu Ile Ser
35 40 45

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Ala Pro Trp Thr
85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro
100 105 110

Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr
115 120 125

Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys
130 135 140

Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu
145 150 155 160

Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser

_Sequence_Listing_10_25_16_ST25

165 170 175

Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala
180 185 190

Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe
195 200 205

Asn Arg Gly Glu Cys
210

<210> 160
<211> 223
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 160

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Lys Phe Thr Asp Ser
20 25 30

Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Gly Val Asp Pro Glu Thr Glu Gly Ala Ala Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

_Sequence_Listing_10_25_16_ST25

Thr Arg Gly Tyr Asp Tyr Asp Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
115 120 125

Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu
130 135 140

Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
145 150 155 160

Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu
165 170 175

Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser
180 185 190

Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro
195 200 205

Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
210 215 220