

P6032062PCT-SG_20150619-133515_Corrected Sequence Listing
SEQUENCE LISTING

<110> Laboratorios LETI SL

<120> Molecule for treating an inflammatory disorder

<130> P6032062PCT

<150> EP 11165248.3

<151> 2011-05-09

<150> US 61/484,67

<151> 2011-05-09

<160> 57

<170> PatentIn version 3.3

<210> 1

<211> 267

<212> PRT

<213> Leishmania major

<400> 1

Met Thr Pro Leu Ser Leu Ser Ser Ser Arg His Ser Phe Lys Gln Asn
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Glu Thr Gln Asn Met Val Ser Leu Lys Leu Gln Ala Arg Leu Ala Ser
20 25 30

Ser Ile Leu Gly Cys Gly Arg Ala Arg Val Trp Leu Asp Pro Asn Glu
35 40 45

Ala Val Glu Ile Gln Asn Ala Asn Ser Arg Lys Ser Val Arg Lys Leu
50 55 60

Ile Lys Asp Gly Phe Ile Ile Arg Lys Pro Val Lys Val His Ser Arg
65 70 75 80

Ala Arg Trp Arg Lys Met Lys Glu Ala Lys Asp Met Gly Arg His Asn
85 90 95

Gly Val Gly Arg Arg Glu Gly Ser Arg Glu Ala Arg Met Pro Ser Lys
100 105 110

Glu Leu Trp Met Arg Arg Leu Arg Ile Leu Arg Arg Leu Leu Arg Lys
115 120 125

Tyr Arg Ala Asp Lys Lys Ile Asp Arg His Val Tyr Arg Asp Leu Tyr
130 135 140

Met Arg Ala Lys Gly Asn Val Phe Arg Asn Lys Arg Asn Leu Val Glu
145 150 155 160

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His Ile His Lys Lys Ile Lys Asn Glu Lys Lys Lys Glu Arg Gln Leu Ala
165 170 175

Glu Gln Leu Ala Ala Lys His Leu Arg Asp Glu Gln Asn Arg Asn Lys
180 185 190

Ala Arg Lys Gln Glu Leu Lys Lys Arg Glu Lys Glu Arg Glu Arg Ala
195 200 205

Arg Arg Asp Asp Ala Ala Ala Ala Ala Gln Lys Lys Lys Ala Asp Ala
210 215 220

Ala Lys Lys Ser Ala Ala Pro Ala Ala Lys Ser Ala Ala Pro Ala Ala
225 230 235 240

Lys Ala Ala Ala Pro Ala Thr Lys Ala Ala Ala Ala Pro Ala Thr
245 250 255

Lys Gly Ala Ala Pro Val Lys Lys Ser Lys Lys
260 265

<210> 2
<211> 804
<212> DNA
<213> Leishmania major

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cgctgtggc tggaccccaa cgaggcggg gagatccaga acgcgaactc gcgcaagagc 180
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cgcgagggta gccgcgagg ccgcatgcc agcaaggagt tgtggatgc cgcctgcgc 360
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cgcgacctgt acatgcgcgc gaagggtaac gtgttcgc acaagcgcaa ccttgtggag 480
cacatccaca agatcaagaa tgagaagaag aaggagcgcc agctggcgga gcagctcgcg 540
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cgcgagaagg agcgcgagcg cgcgaggcg gacgacgctg ctgccgctgc gcagaagaag 660
aaggcggacg ccgcgaagaa gtccgccgc cctgctgcga agtccgccgc gcctgccgcg 720
aaggctgctg cccccccac gaaggccgct gctgctgccc ccgccacgaa ggggtgctgcg 780
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<210> 3
<211> 28
<212> DNA
<213> artificial

<220>
<223> primer

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<210> 4
<211> 30
<212> DNA
<213> artificial

<220>
<223> primer

<400> 4
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<210> 5
<211> 250
<212> PRT
<213> Leishmania braziliensis

<400> 5

Met Val Ser Leu Lys Leu Gln Ala Arg Leu Ala Ser Ser Ile Leu Gly
1 5 10 15

Cys Gly Arg Ala Arg Val Trp Leu Asp Pro Asn Glu Ala Met Glu Ile
20 25 30

Gln Asn Ala Asn Ser Arg Lys Ser Val Arg Lys Leu Ile Lys Asp Gly
35 40 45

Phe Ile Ile Arg Lys Pro Val Lys Val His Ser Arg Ala Arg Trp Arg
50 55 60

Lys Met Lys Glu Ala Lys Asp Met Gly Arg His Ser Gly Val Gly Arg
65 70 75 80

Arg Glu Gly Ser Arg Glu Ala Arg Met Pro Ser Lys Glu Leu Trp Met
85 90 95

Arg Arg Leu Arg Ile Leu Arg Arg Leu Leu Arg Lys Tyr Arg Ala Asp
100 105 110

Lys Lys Ile Asp Arg His Val Tyr Arg Asp Leu Tyr Val Arg Ala Lys
115 120 125

P6032062PCT-SG_20150619-133515_Corrected Sequence Listing

Gly Asn Val Phe Arg Asn Lys Arg Asn Leu Met Glu His Ile His Lys
130 135 140

Ile Lys Asn Glu Lys Lys Lys Glu Arg Gln Leu Ala Glu Gln Leu Ala
145 150 155 160

Ala Lys His Gln Arg Asp Glu Gln His Arg Asn Lys Ala Arg Lys Gln
165 170 175

Glu Leu Lys Lys Arg Glu Lys Glu Arg Glu Arg Ala Arg Arg Asp Asp
180 185 190

Ala Ala Ala Ala Ala Gln Lys Lys Lys Ala Asp Val Ala Lys Lys Ser
195 200 205

Ala Ala Pro Ala Thr Lys Ala Ala Ala Val Ser Ala Ala Lys Ala Ala
210 215 220

Ala Val Ser Val Ser Arg Ala Ala Ala Ala Val Ala Pro Ala Ala Lys
225 230 235 240

Pro Ala Val Pro Ala Lys Lys Ser Lys Lys
245 250

<210> 6
<211> 753
<212> DNA
<213> Leishmania braziliensis

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gtgcgcaagc tgatcaagga tggcttcac attcgttaagc cggatgaagg gcaactcgcg 180
gcgcggtggc gtaagatgaa ggaggcgaag gacatggggc gccacagcgg cgttgcccg 240
cgcgagggtg gccgcgaggc ccgcatgccg agcaaggagc tgtggatgcg ccgcctgcgc 300
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cgcgacctgt acgtgcgcgc gaagggtaac gtgttcgca acaagcgcaa cttatggag 420
cacatccaca agatcaagaa cgagaagaag aaggagcggc agctggcgga gcagcttgcg 480
gcgaagcacc agcgcgacga gcagcaccgc aacaaggctc gcaagcagga gctgaagaag 540
cgcgagaagg agcgcgagcg cgcgaggcgc gacgacgctg ctgctgctgc gcagaagaag 600
aaggcggacg ttgcgaagaa gtctgctgcc cctgctacga aggtgctgc tgtctccgcc 660
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P6032062PCT-SG_20150619-133515_Corrected Sequence Listing

cctgctgtgc cggcgaagaa gtcgaagaag taa

753

<210> 7
<211> 271
<212> PRT
<213> Leishmania braziliensis

<400> 7

Met Val Ser Leu Lys Leu Gln Ala Arg Leu Ala Ser Ser Ile Leu Gly
1 5 10 15

Cys Gly Arg Ala Arg Val Trp Leu Asp Pro Asn Glu Ala Met Glu Ile
20 25 30

Gln Asn Ala Asn Ser Arg Lys Ser Val Arg Lys Leu Ile Lys Asp Gly
35 40 45

Phe Ile Ile Arg Lys Pro Val Lys Val His Ser Arg Ala Arg Trp Arg
50 55 60

Lys Met Lys Glu Ala Lys Asp Met Gly Arg His Ser Gly Val Gly Arg
65 70 75 80

Arg Glu Gly Ser Arg Glu Ala Arg Met Pro Ser Lys Glu Leu Trp Met
85 90 95

Arg Arg Leu Arg Ile Leu Arg Arg Leu Leu Arg Lys Tyr Arg Ala Asp
100 105 110

Lys Lys Ile Asp Arg His Val Tyr Arg Asp Leu Tyr Val Arg Ala Lys
115 120 125

Gly Asn Val Phe Arg Asn Lys Arg Asn Leu Met Glu His Ile His Lys
130 135 140

Ile Lys Asn Glu Lys Lys Lys Glu Arg Gln Leu Ala Glu Gln Leu Ala
145 150 155 160

Ala Lys His Gln Arg Asp Glu Gln His Arg Asn Lys Ala Arg Lys Gln
165 170 175

Glu Leu Lys Lys Arg Glu Lys Glu Arg Glu Arg Ala Arg Arg Asp Asp
180 185 190

Ala Ala Ala Ala Ala Gln Lys Lys Lys Ala Asp Val Ala Lys Lys Ser
195 200 205

P6032062PCT-SG_20150619-133515_Corrected Sequence Listing
 Ala Ala Pro Ala Thr Lys Ala Ala Ala Val Ser Ala Ala Lys Ala Ala
 210 215 220

Ala Val Ser Ala Ala Lys Ala Ala Ala Val Ser Val Ser Arg Ala Ala
 225 230 235 240

Ala Ala Val Ala Pro Ala Ala Lys Pro Ala Val Pro Ala Lys Ala Ala
 245 250 255

Ala Pro Ala Ala Lys Gly Ala Val Pro Ala Lys Lys Ser Lys Lys
 260 265 270

<210> 8
 <211> 816
 <212> DNA
 <213> Leishmania braziliensis

<400> 8
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 cgcgacctgt acgtgcgcgc gaagggtaac gtgttccgca acaagcgcaa ctttatggag 420
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 aaggcgagcg ttgcgaagaa gtctgctgcc cctgctacga aggtgctgctg tgtctccgcc 660
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<210> 9
 <211> 176
 <212> PRT
 <213> Leishmania braziliensis

<400> 9

Met Arg Arg Leu Arg Ile Leu Arg Arg Leu Leu Arg Lys Tyr Arg Ala
 1 5 10 15

Asp Lys Lys Ile Asp Arg His Val Tyr Arg Asp Leu Tyr Val Arg Ala
 Page 6

Lys Gly Asn Val Phe Arg Asn Lys Arg Asn Leu Met Glu His Ile His
35 40 45

Lys Ile Lys Asn Glu Lys Lys Lys Glu Arg Gln Leu Ala Glu Gln Leu
50 55 60

Ala Ala Lys His Gln Arg Asp Glu Gln His Arg Asn Lys Ala Arg Lys
65 70 75 80

Gln Glu Leu Lys Lys Arg Glu Lys Glu Arg Glu Arg Ala Arg Arg Asp
85 90 95

Asp Ala Ala Ala Ala Ala Gln Lys Lys Lys Ala Asp Val Ala Lys Lys
100 105 110

Ser Ala Ala Pro Ala Thr Lys Ala Ala Ala Val Ser Ala Ala Lys Ala
115 120 125

Ala Ala Val Ser Ala Ala Lys Ala Ala Ala Val Ser Val Ser Arg Ala
130 135 140

Ala Ala Ala Val Ala Pro Ala Ala Lys Pro Ala Val Pro Ala Lys Ala
145 150 155 160

Ala Ala Pro Ala Ala Lys Gly Ala Val Pro Ala Lys Lys Ser Lys Lys
165 170 175

<210> 10
<211> 531
<212> DNA
<213> Leishmania braziliensis

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cgcaacctta tggagcacat ccacaagatc aagaacgaga agaagaagga gcggcagctg 180
gcggagcagc ttgcggcgaa gcaccagcgc gacgagcagc accgcaacaa ggctcgcaag 240
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gctgcgcaga agaagaaggc ggacgttgcg aagaagtctg ctgcccctgc tacgaaggct 360
gctgctgtct ccgccgcgaa ggctgctgct gtctccgccg cgaaggctgc tgctgtctcc 420
gtctcgaggg ctgctgctgc tgtggctccc gctgcgaagc ctgctgtgcc ggcgaaggct 480
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<210> 11
 <211> 245
 <212> PRT
 <213> Leishmania infantum

<400> 11

Met Val Ser Leu Lys Leu Gln Ala Arg Leu Ala Ser Ser Ile Leu Gly
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Cys Gly Arg Ala Arg Val Trp Leu Asp Pro Asn Glu Ala Val Glu Ile
 20 25 30

Gln Asn Ala Asn Ser Arg Lys Ser Val Arg Lys Leu Ile Lys Asp Gly
 35 40 45

Phe Ile Ile Arg Lys Pro Val Lys Val His Ser Arg Ala Arg Trp Arg
 50 55 60

Lys Met Lys Glu Ala Lys Asp Met Gly Arg His Asn Gly Val Gly Arg
 65 70 75 80

Arg Glu Gly Ser Arg Glu Ala Arg Met Pro Ser Lys Glu Leu Trp Met
 85 90 95

Arg Arg Leu Arg Ile Leu Arg Arg Leu Leu Arg Lys Tyr Arg Ala Asp
 100 105 110

Lys Lys Ile Asp Arg His Val Tyr Arg Asp Leu Tyr Val Arg Ala Lys
 115 120 125

Gly Asn Val Phe Arg Asn Lys Arg Asn Leu Val Glu His Ile His Lys
 130 135 140

Ile Lys Asn Glu Lys Lys Lys Glu Arg Gln Leu Ala Glu Gln Leu Ala
 145 150 155 160

Ala Lys His Leu Arg Asp Glu Gln Asn Arg Asn Lys Ala Arg Lys Gln
 165 170 175

Glu Leu Arg Lys Arg Glu Lys Glu Arg Glu Arg Ala Arg Arg Asp Asp
 180 185 190

Ala Ala Ala Ala Ala Gln Lys Lys Lys Ala Asp Ala Ala Lys Lys Ser
 195 200 205

Ala Ala Pro Ala Ala Lys Ser Ala Ala Pro Ala Ala Lys Ser Ala Ala
 210 215 220

P6032062PCT-SG_20150619-133515_Corrected Sequence Listing

Pro Ala Ala Lys Val Ala Ala Pro Ala Thr Lys Gly Ala Ala Pro Val
225 230 235 240

Lys Lys Ser Lys Lys
245

<210> 12
<211> 738
<212> DNA
<213> Leishmania infantum

<400> 12
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gtgcgcaagc tgatcaagga tggcttcacg atccgcaagc cggatgaaggt gactcgcgc 180
gcgcgggtggc gtaaaatgaa ggaggcgaag gacatggggc gccacaacgg cgttggccgc 240
cgcgagggta gccgcgaggc ccgcatgccg agcaaggagt tgtggatgcg ccgcctgcgc 300
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cgagacctgt acgtgcgcgc gaagggtaat gtgttccgca acaagcgcaa ccttgtggag 420
cacatccaca agatcaagaa tgagaagaag aaggagcgcc agctggcgga gcagcttgcg 480
gcgaagcacc tgcgcgacga gcagaaccgc aacaaggctc gcaagcagga gctgaggaag 540
cgcgagaagg agcgcgagcg cgcgaggcgc gacgacgctg ctgccgctgc gcagaagaag 600
aaggcggacg ccgcgaagaa gtctgccgcg cctgccgcga agtctgccgc gcctgccgcg 660
aagtctgccg gcctgccgcg gaagggtgct gccccgcga cgaagggtgc tgcgccggtg 720
aagaagtcga agaagtaa 738

<210> 13
<211> 238
<212> PRT
<213> Leishmania infantum

<400> 13

Met Val Ser Leu Lys Leu Gln Ala Arg Leu Ala Ser Ser Ile Leu Gly
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Cys Gly Arg Ala Arg Val Trp Leu Asp Pro Asn Glu Ala Val Glu Ile
20 25 30

Gln Asn Ala Asn Ser Arg Lys Ser Val Arg Lys Leu Ile Lys Asp Gly
35 40 45

Phe Ile Ile Arg Lys Pro Val Lys Val His Ser Arg Ala Arg Trp Arg
50 55 60

P6032062PCT-SG_20150619-133515_Corrected Sequence Listing

Lys Met Lys Glu Ala Lys Asp Met Gly Arg His Asn Gly Val Gly Arg
65 70 75 80

Arg Glu Gly Ser Arg Glu Ala Arg Met Pro Ser Lys Glu Leu Trp Met
85 90 95

Arg Arg Leu Arg Ile Leu Arg Arg Leu Leu Arg Lys Tyr Arg Ala Asp
100 105 110

Lys Lys Ile Asp Arg His Val Tyr Arg Asp Leu Tyr Val Arg Ala Lys
115 120 125

Gly Asn Val Phe Arg Asn Lys Arg Asn Leu Val Glu His Ile His Lys
130 135 140

Ile Lys Asn Glu Lys Lys Lys Glu Arg Gln Leu Ala Glu Gln Leu Ala
145 150 155 160

Ala Lys His Leu Arg Asp Glu Gln Asn Arg Asn Lys Ala Arg Lys Gln
165 170 175

Glu Leu Arg Lys Arg Glu Lys Glu Arg Glu Arg Ala Arg Arg Asp Asp
180 185 190

Ala Ala Ala Ala Ala Gln Lys Lys Lys Ala Asp Ala Ala Lys Lys Ser
195 200 205

Ala Ala Pro Ala Ala Lys Ser Ala Ala Pro Ala Ala Lys Val Ala Ala
210 215 220

Pro Ala Thr Lys Gly Ala Ala Pro Val Lys Lys Ser Lys Lys
225 230 235

<210> 14
<211> 717
<212> DNA
<213> Leishmania infantum

<400> 14
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gtgcgcaagc tgatcaagga tggcttcac atccgcaagc cggatgaagg gcaactcgcgc 180
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cgcgagggtg gccgcgaggc ccgcatgccg agcaaggagt tgtggatgcg ccgcctgcgc 300
attctgcgcc gcctgctgcg caagtaccgc gcggacaaga agatcgaccg ccacgtgtac 360

P6032062PCT-SG_20150619-133515_Corrected Sequence Listing

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cacatccaca agatcaagaa tgagaagaag aaggagcgcc agctggcgga gcagcttgcg 480
gcgaagcacc tgcgcgacga gcagaaccgc aacaaggctc gcaagcagga gctgaggaag 540
cgcgagaagg agcgcgagcg cgcgaggcgc gacgacgctg ctgccgctgc gcagaagaag 600
aaggcgagcg ccgcgaagaa gtctgccgcg cctgccgcga agtctgccgc gcctgccgcg 660
aaggttgctg ccccgccac gaagggtgct gcgccggtga agaagtcgaa gaagtaa 717

<210> 15
<211> 247
<212> PRT
<213> Leishmania mexicana

<400> 15

Met Val Ser Leu Lys Leu Gln Ala Arg Leu Ala Ser Ser Ile Leu Ser
1 5 10 15

Cys Gly Arg Ala Arg Val Trp Leu Asp Pro Asn Glu Ala Met Glu Ile
20 25 30

Gln Asn Ala Asn Ser Arg Lys Ser Val Arg Lys Leu Ile Lys Asp Gly
35 40 45

Phe Ile Ile Arg Lys Pro Val Lys Val His Ser Arg Ala Arg Trp Arg
50 55 60

Lys Met Lys Glu Ala Lys Asp Met Gly Arg His Asn Gly Val Gly Arg
65 70 75 80

Arg Glu Gly Ser Arg Glu Ala Arg Met Pro Ser Lys Glu Leu Trp Met
85 90 95

Arg Arg Leu Arg Ile Leu Arg Arg Leu Leu Arg Lys Tyr Arg Ala Asp
100 105 110

Lys Lys Ile Asp Arg His Val Tyr Arg Asp Leu Tyr Met Arg Ala Lys
115 120 125

Gly Asn Val Phe Arg Asn Lys Arg Asn Leu Val Glu Tyr Ile His Lys
130 135 140

Ile Lys Asn Glu Lys Lys Lys Ala Arg Gln Leu Ala Glu Gln Leu Ala
145 150 155 160

Ala Lys His Leu Arg Asp Glu Gln Asn Arg Asn Lys Ala Arg Lys Gln
165 170 175

Glu Leu Arg Lys Arg Glu Lys Glu Arg Glu Arg Ala Lys Arg Asp Asp
180 185 190

Ala Ala Ala Ala Glu Lys Lys Lys Ala Asp Ala Ala Lys Lys Ser
195 200 205

Ala Ala Pro Ala Ala Lys Ser Ala Ala Pro Ala Lys Ala Ala
210 215 220

Pro Val Ala Lys Ala Ala Ala Ala Ala Pro Ala Ala Lys Gly Ala Ala
225 230 235 240

Pro Val Lys Lys Ser Lys Lys
245

<210> 16
<211> 744
<212> DNA
<213> Leishmania mexicana

<400> 16
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120
gtgcgcaagc tgcataagga tggcttcac atccgcaagc cgtgtgaagt gcacttcgccc
180
gcgcggtggtc gtaaatgaa ggaagcggaag gacatggggc gccacaacgg cgttcgccc
240
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360
cgaagacctgt acatgcgccc gaaggttaac gtgttcgcca acaagcgcaa ccttgttgag
420
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480
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540
cgcgaagagg agcgcgagcg cgcgaagcg gcgacgctg ctgcgctgc gcagaagaa
600
aagcgcgacg ccgcgaagaa gtcgcgccc agtcctgcga agtcgcgccc gcctgcgccc
660
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720
ccggtgaaga agtcgaagaa gtaa
744

<210> 17
<211> 247
<212> PRT
<213> Leishmania mexicana

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1 5 10 15

Cys Gly Arg Ala Arg Val Trp Leu Asp Pro Asn Glu Ala Met Glu Ile
20 25 30

Gln Asn Ala Asn Ser Arg Lys Ser Val Arg Lys Leu Ile Lys Asp Gly
35 40 45

Phe Ile Ile Arg Lys Pro Val Lys Val His Ser Arg Ala Arg Trp Arg
50 55 60

Lys Met Lys Glu Ala Lys Asp Met Gly Arg His Asn Gly Val Gly Arg
65 70 75 80

Arg Glu Gly Ser Arg Glu Ala Arg Met Pro Ser Lys Glu Leu Trp Met
85 90 95

Arg Arg Leu Arg Ile Leu Arg Arg Leu Leu Arg Lys Tyr Arg Ala Asp
100 105 110

Lys Lys Ile Asp Arg His Val Tyr Arg Asp Leu Tyr Met Arg Ala Lys
115 120 125

Gly Asn Val Phe Arg Asn Lys Arg Asn Leu Val Glu Tyr Ile His Lys
130 135 140

Ile Lys Asn Glu Lys Lys Lys Ala Arg Gln Leu Ala Glu Gln Leu Ala
145 150 155 160

Ala Lys His Leu Arg Asp Glu Gln Asn Arg Asn Lys Ala Arg Lys Gln
165 170 175

Glu Leu Arg Lys Arg Glu Lys Glu Arg Glu Arg Ala Lys Arg Asp Asp
180 185 190

Ala Ala Ala Ala Ala Gln Lys Lys Lys Ala Asp Ala Ala Lys Lys Ser
195 200 205

Ala Ala Pro Ala Ala Lys Ser Ala Ala Pro Ala Ala Lys Ala Ala Ala
210 215 220

Pro Val Ala Lys Ala Ala Ala Ala Ala Pro Ala Ala Lys Gly Ala Ala
225 230 235 240

Pro Val Lys Lys Ser Lys Lys
245

<210> 18
<211> 744
<212> DNA
<213> Leishmania mexicana

<400> 18
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gtgcgcaagc tgaatcaagg tggcttcac atccgcaagc cgttgaaagt gcaactcgcgc
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gcgaaggta gccgcgaagc ccgcatagcg agcaaggagt ttgtgatgcg ccgcctgcgc
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cgagacctgt acatgcgcg gaaaggtaac gtgttcgca acaagcgcaa ccttgtgag
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gcgaagaag agcgcgagcg cgcgaagcg gcgaagcg gcgaagcg gcaagaagaa
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aagctgtgc

<210> 19
<211> 245
<212> PRT
<213> Leishmania donovani

Met Val Ser Leu Lys Leu Gln Ala Arg Leu Ala Ser Ser Ile Leu Gly

Cys Gly Arg Ala Arg Val Trp Leu Asp Pro Asn Gln Ala Val Gln Ile

Gln Asn Ala Asn Ser Arg Lys Ser Val Arg Lys Leu Ile Lys Asp Gly

Phe Ile Ile Arg Lys Pro Val Lys Val His Ser Arg Ala Arg Trp Arg

Lys Met Lys Gln Ala Lys Asp Met Gly Arg His Asn Gly Val Gly Arg

Arg Gln Gly Ser Arg Gln Ala Arg Met Pro Ser Lys Gln Leu Trp Met

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Arg Arg Leu Arg Ile Leu Arg Arg Leu Leu Arg Lys Tyr Arg Ala Asp
100 105 110

Lys Lys Ile Asp Arg His Val Tyr Arg Asp Leu Tyr Val Arg Ala Lys
115 120 125

Gly Asn Val Phe Arg Asn Lys Arg Asn Leu Val Glu His Ile His Lys
130 135 140

Ile Lys Asn Glu Lys Lys Lys Glu Arg Gln Leu Ala Glu Gln Leu Ala
145 150 155 160

Ala Lys His Leu Arg Asp Glu Gln Asn Arg Asn Lys Ala Arg Lys Gln
165 170 175

Glu Leu Arg Lys Arg Glu Lys Glu Arg Glu Arg Ala Arg Arg Asp Asp
180 185 190

Ala Ala Ala Ala Ala Gln Lys Lys Lys Ala Asp Ala Ala Lys Lys Ser
195 200 205

Ala Ala Ser Ala Ala Lys Ser Ala Ala Pro Ala Ala Lys Ser Ala Ala
210 215 220

Pro Ala Ala Lys Val Ala Ala Pro Ala Thr Lys Gly Ala Ala Pro Val
225 230 235 240

Lys Lys Ser Lys Lys
245

<210> 20
<211> 738
<212> DNA
<213> Leishmania donovani

<400> 20
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gtgcgcaagc tgatcaagga tggcttcac atccgcaagc cggatgaagg gactcgcgc 180
gcgcgggtggc gtaaaatgaa ggaggcgaag gacatggggc gccacaacgg cgttggccgc 240
cgcgagggta gccgcgaggc ccgcattgcc agcaaggagt tgtggatgcg ccgcctgcgc 300
attctgcgcc gcctgctgcg caagtaccgc gcggacaaga agatcgaccg ccacgtgtac 360
cgagacctgt acgtgcgcgc gaagggtaat gtgttccgca acaagcgcaa ccttgtggag 420
cacatccaca agatcaagaa tgagaagaag aaggagcgcc agctggcgga gcagcttgcg 480

P6032062PCT-SG-20150619-133515-Corrected Sequence Listing
 540 gcaagacacc tgcgcgacga gcaagaaccgc aacaagcttc gcaagcagga gctgaggaag
 600 cgcgagaagg agcgcgaagc cgcgagggcg gacgacgctg ctgcgcctgc gcagaagaag
 660 aagcggagc cgcggaagaa gtctgcgcgc tctgtgcga agtctgcgcg gcttgcctgcg
 720 aagtcgcgc cgcctgcgcg gaaggttgc gccccccca cgaagggtgc tgcgcgcgtg
 738 aagaagtcga agaagtaa

<210> 21
 <211> 372
 <212> PRT
 <213> Trypanosoma cruzi
 <400> 21

Met Val Ser Leu Lys Leu Gln Ala Arg Leu Ala Asp Ile Leu Arg 1
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Cys Gly Arg His Arg Val Trp Leu Asp Pro Asn Gln Ala Ser Gln Ile 20
25 30

Ser Asn Ala Asn Ser Arg Lys Ser Val Arg Lys Leu Ile Lys Asp Gly 35
40 45

Leu Ile Ile Arg Lys Pro Val Lys Val His Ser Arg Ser Arg Trp Arg 50
55 60

His Met Lys Gln Ala Lys Ser Met Gly Arg His Gln Gly Ala Gly Arg 65
70 75 80

Arg Gln Gly Thr Arg Gln Ala Arg Met Pro Ser Lys Gln Leu Trp Met 85
90 95

Arg Arg Leu Arg Ile Leu Arg Arg Leu Arg Lys Tyr Arg Gln Gln 100
105 110

Lys Lys Ile Asp Arg His Ile Tyr Arg Gln Leu Tyr Val Lys Ala Lys 115
120 125

Gly Asn Val Phe Arg Asn Lys Arg Asn Leu Met Gln His Ile His Lys 130
135 140

Val Lys Asn Gln Lys Lys Lys Gln Arg Gln Leu Ala Gln Leu Ala 145
150 155 160

Ala Lys Arg Leu Lys Asp Gln His Arg His Lys Ala Arg Lys Gln 165
170 175

Gln Leu Arg Lys Arg Gln Lys Asp Arg Gln Arg Ala Arg Arg Gln Asp 175
180

P6032062PCT-SG_20150619-133515_Corrected Sequence Listing

Ala Ala Ala Ala Ala Ala Ala Lys Gln Lys Ala Ala Ala Lys Lys Ala
180 185 190
195 200 205

Ala Ala Pro Ser Gly Lys Lys Ser Ala Lys Ala Ala Thr Ala Pro Ala
210 215 220

Lys Ala Ala Ala Ala Pro Ala Lys Ala Ala Ala Ala Pro Ala Lys Ala
225 230 235 240

Ala Ala Ala Pro Ala Lys Ala Ala Ala Ala Pro Ala Lys Ala Ala Ala
245 250 255

Ala Pro Ala Lys Ala Ala Thr Ala Pro Ala Lys Ala Ala Ala Ala Pro
260 265 270

Ala Lys Ala Ala Thr Ala Pro Ala Lys Ala Ala Ala Ala Pro Ala Lys
275 280 285

Ala Ala Ala Ala Pro Ala Lys Ala Ala Thr Ala Pro Ala Lys Ala Ala
290 295 300

Ala Ala Pro Ala Lys Ala Ala Thr Ala Pro Ala Lys Ala Ala Ala Ala
305 310 315 320

Pro Ala Lys Ala Ala Thr Ala Pro Ala Lys Ala Ala Ala Ala Pro Ala
325 330 335

Lys Ala Ala Ala Ala Pro Ala Lys Ala Ala Thr Ala Pro Ala Lys Ala
340 345 350

Ala Thr Ala Pro Ala Lys Ala Ala Thr Ala Pro Val Gly Lys Lys Ala
355 360 365

Gly Gly Lys Lys
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<210> 22
<211> 1119
<212> DNA
<213> Trypanosoma cruzi

<400> 22
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cgtgtgtggc tggatcctaa tgaggcctct gagatttcca atgcaaactc gcgcaagagc 120
gtgcgcaagt tgatcaagga tggcttgatt attcgcaagc ctgtcaaggt gcactcgcgc 180

P6032062PCT-SG_20150619-133515_Corrected Sequence Listing
 240 tcccgctggc gccacatgaa ggaagcggaag agcatgggccc gccacgaggg cgtggggcgc
 300 cgcgaaggta cccgcgaagc cgcgatggcc agcaaggagc tgtggatgc cgtctgcgc
 360 attctccgcc gacctgcgc caagtaccgc gaggaagaag agattgaacc ccaatatc
 420 cgcgaagctgt acgtgaagcc gaaggggaaac gtgtttcgca acaagcgtaa cctcatgag
 480 cacatccaca aggtgaagaa cgaagaagaa aggaagagc agctggtga gcatctcgc
 540 gcgaagcgcc tgaagatga gcatcacctt caaagccc gcaagcagga gctgcgtaag
 600 cgcgaagaag accgcgaagc tgcgcgtcgc gaagatgctg cgcgtgcgc cgcgcggaag
 660 cagaagaagctg ctgcgaagaa ggcgctgt cctcttgca agaagtcgc gaagctgt
 720 actgcacctg cgaagcgcc tgcgtcacct gcaagggccg ctgctgcacc tgcgaagct
 780 gctgctgca ctgcgaagc tgcgtcga cctgcgaag ctgctgtgc acctgcgaag
 840 gctgctactg cactgcga ggcgctgt gcaactgcga aggtctgtac tgcacctgcg
 900 aagcgctg ctgcacctg gaagctgt gctgcacctg cgaaggtgc tactgcacct
 960 gcgaagcgcc ctgctgcacc tgcgaagct gctactgcac ctgcgaagc cgtgctgca
 1020 cctgcgaag ctgctactgc acctgcgaag ggcgctgtg cactgcga cgcgctgt
 1080 gcaactgcga aggtctgtac tgcacctgcg aagcgctga ctgcacctg gaagctgt
 1119 actgcacctg ttggaagaa ggcgtgtgc aagaagta

<210> 23
 <211> 356
 <212> PRT
 <213> Trypanosoma cruzi
 <400> 23

Met Val Ser Leu Lys Leu Ala Arg Leu Ala Asp Ile Leu Arg
 1 5 10 15
 Cys Gly Arg His Arg Val Trp Leu Asp Pro Asn Glu Ala Ser Glu Ile
 20 25 30
 Ser Asn Ala Asn Ser Arg Lys Ser Val Arg Lys Leu Ile Lys Asp Gly
 35 40 45
 Leu Ile Ile Arg Lys Pro Val Lys Val His Ser Arg Ser Arg Trp Arg
 50 55 60
 His Met Lys Glu Ala Lys Ser Met Gly Arg His Glu Gly Ala Gly Arg
 65 70 75 80
 Arg Glu Gly Thr Arg Glu Ala Arg Met Pro Ser Lys Glu Leu Trp Met
 85 90 95

P6032062PCT-SG_20150619-133515_Corrected Sequence Listing

Arg Arg Leu Arg Ile Leu Arg Arg Leu Leu Arg Lys Tyr Arg Glu Glu
100 105 110

Lys Lys Ile Asp Arg His Ile Tyr Arg Glu Leu Tyr Val Lys Ala Lys
115 120 125

Gly Asn Val Phe Arg Asn Lys Arg Asn Leu Met Glu His Ile His Lys
130 135 140

Val Lys Asn Glu Lys Lys Lys Glu Arg Gln Leu Ala Glu Gln Leu Ala
145 150 155 160

Ala Lys Arg Leu Lys Asp Glu Gln His Arg His Lys Ala Arg Lys Gln
165 170 175

Glu Leu Arg Lys Arg Glu Lys Asp Arg Glu Arg Ala Arg Arg Glu Asp
180 185 190

Ala Ala Ala Ala Ala Ala Ala Lys Gln Lys Ala Ala Ala Lys Lys Ala
195 200 205

Ala Ala Pro Ser Gly Lys Lys Ser Ala Lys Ala Ala Ala Pro Ala Lys
210 215 220

Ala Ala Ala Ala Pro Ala Lys Ala Ala Ala Pro Pro Ala Lys Thr Ala
225 230 235 240

Ala Ala Pro Ala Lys Ala Ala Ala Pro Ala Lys Ala Ala Ala Pro Pro
245 250 255

Ala Lys Ala Ala Ala Pro Pro Ala Lys Thr Ala Ala Pro Pro Ala Lys
260 265 270

Thr Ala Ala Pro Pro Ala Lys Ala Ala Ala Pro Pro Ala Lys Ala Ala
275 280 285

Ala Pro Pro Ala Lys Ala Ala Ala Pro Pro Ala Lys Ala Ala Ala Ala
290 295 300

Pro Ala Lys Ala Ala Ala Ala Pro Ala Lys Ala Ala Ala Pro Pro Ala
305 310 315 320

Lys Ala Ala Ala Pro Pro Ala Lys Ala Ala Ala Pro Pro Ala Lys Ala
325 330 335

Ala Ala Pro Pro Ala Lys Ala Ala Ala Ala Pro Val Gly Lys Lys Ala
340 345 350

Gly Gly Lys Lys
355

<210> 24
<211> 1071
<212> DNA
<213> Trypanosoma cruzi

<400> 24
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cgttgtttgc ttgaccctaa ttgagcctct gagatattcca atgcaaatc gcgcaagagc
120
gtgcgcaagt tgaatcaaggc ttgtctgatt attcgcgaagc ctgtccaaggt gcacttcgcg
180
ttccgctggc gccacatgaa ggagggcgaa agcatgggcc gccacgaggg cgttgggcgc
240
cgcgagtgta cccgcgaagc ccgcattgagc agcaaggagc ttgttgatgc ccgttcgcg
300
attctccgc gcttcgtcgc caagtaccgc gaggaagaga agattgacgc ccaatttac
360
cgcgagctgt acctgaagc gaagggaac gtgtttcgca acaagcgtaa cctcatggag
420
cacatccaca agtgtgaagaa cgaagaagaa agtggaagc agcttgctga gcagctcgcg
480
gcgaagcgc ttgaaggatga gcagcaccgt caaaggccc gcaagcagga gcttcgtaag
540
cgcgaggaag accgcgagcg ttgcgctgcg gaagatgcg ccgctggcgc cgcgcggaag
600
cagaagaatg ctgcgaagaa ggcgcgtgct cctcttgcca agaagtcgcg gaaggtctgt
660
gcaccgcgca aggtctgtgc ttgaccgcgc aagccgcgtg ctccaccgcg gaagaccgt
720
gttgaccacc ggaaggtctgc ttgaccctgc aaggtctgtg ctccaccgcg gaaggtctg
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gttcaccacc cgaagaccgc ttgctccacc gcgaagaccg ctgtccacc cgcgaaggt
840
gctgtctcac ccgcgaagcc cgtgtctcca ccgcggaagg ccgctgtccc accgcggaag
900
gctgtctgct caccgcgcaa ggcgcgtgct gcaccgcgga aggtctgtgc ttccaccgcg
960
aaggtcgcgt ctccaccgcg gaaggtctgt gctccaccgc cgaaggtctg tgcctccacc
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gcgaaggtct cgttcgtccc cgttggaag aaggtctgtg gcaagaaagt a
1071

<210> 25
<211> 343
<212> PRT
<213> Trypanosoma cruzi

Met Val Ser Leu Lys Leu Gln Ala Arg Leu Ala Asp Ile Leu Arg
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10
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Cys Gly Arg His Arg Val Trp Leu Asp Pro Asn Gln Ala Ser Gln Ile
20
25
30

P6032062PCT-SG_20150619-133515_Corrected Sequence Listing

Ser Asn Ala Asn Ser Arg Lys Ser Val Arg Lys Leu Ile Lys Asp Gly
35 40 45

Leu Ile Ile Arg Lys Pro Val Lys Val His Ser Arg Ser Arg Trp Arg
50 55 60

His Met Lys Glu Ala Lys Ser Met Gly Arg His Glu Gly Ala Gly Arg
65 70 75 80

Arg Glu Gly Thr Arg Glu Ala Arg Met Pro Ser Lys Glu Leu Trp Met
85 90 95

Arg Arg Leu Arg Ile Leu Arg Arg Leu Leu Arg Lys Tyr Arg Glu Glu
100 105 110

Lys Lys Ile Asp Arg His Ile Tyr Arg Glu Leu Tyr Val Lys Ala Lys
115 120 125

Gly Asn Val Phe Arg Asn Lys Arg Asn Leu Met Glu His Ile His Lys
130 135 140

Val Lys Asn Glu Lys Lys Lys Glu Arg Gln Leu Ala Glu Gln Leu Ala
145 150 155 160

Ala Lys Arg Leu Lys Asp Glu Gln His Arg His Lys Ala Arg Lys Gln
165 170 175

Glu Leu Arg Lys Arg Glu Lys Asp Arg Glu Arg Ala Arg Arg Glu Asp
180 185 190

Ala Ala Ala Ala Ala Ala Ala Lys Gln Lys Ala Ala Ala Lys Lys Ala
195 200 205

Ala Ala Pro Ser Gly Lys Lys Ser Ala Lys Ala Ala Ile Ala Pro Ala
210 215 220

Lys Ala Ala Ala Ala Pro Ala Lys Ala Ala Ala Pro Ala Lys Ala
225 230 235 240

Ala Ala Ala Pro Ala Lys Ala Ala Ala Ala Pro Ala Lys Ala Ala Ala
245 250 255

Ala Pro Ala Lys Ala Ala Thr Ala Pro Ala Lys Ala Ala Ala Ala Pro
260 265 270

Ala Lys Thr Ala Ala Ala Pro Ala Lys Ala Ala Ala Pro Ala Lys Ala
275 280 285

Ala Ala Ala Pro Ala Lys Ala Thr Ala Pro Ala Lys Ala Ala 290
300

Ala Pro Ala Lys Ala Thr Ala Pro Ala Lys Ala Thr Ala Pro 310
320

Ala Lys Ala Ala Ala Pro Ala Lys Ala Thr Ala Pro Val Gly 325
330 335

Lys Lys Ala Gly Gly Lys Lys 340

<210> 26
<211> 1032
<212> DNA
<213> Trypanosoma cruzi

<400> 26
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120
gtgcgcgaagt tgaatcaaggc ctgtcaaggt gcaactcgcgc
180
tcccgcttcgc gccacatgaa gtaggcggaag agcatgggccc gccacgagggg cgttgggcgc
240
ccgagggta cccgcggaagc ccgcattgcgc agcaaggagc tgttgatgcgc ccgtcttcgcgc
300
attcttcgcgc gccctgcgcgc caagtaccgc gagggagaga agattgacgc ccaatctac
360
cgcgagctgt acgtgaagc gaaagggaac gtgtttcgca acaagcgtta cctcatggag
420
cacatccaca agtgtgaagaa cgaagaagaa aaggaaagc agctggctga gcaactcgcgc
480
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540
cgcggaag accgcgagcgc tgcgcttcgc gaagatgcgc ccgctgcgcgc cgcgcggaag
600
cagaagcgt ctgcggaagaa ggcgcgttcgc cctcttgca agaagtcgcgc gaagcgttc
660
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720
gtcgtctgca cctgcggaag cgtgcctgca cctgcggaag cgtgcctgca accctgcggaag
780
gtgtctactg cacttcgcaa ggcctgcctg gcaacttcga agaacctgcgc tgcacctgcgc
840
aagcctgcgc cacttcgcaa ggcctgcctg gcaacttcga agaacctgcgc tgcacctgcgc
900
aagcctgcgc ctgcacctgc gaagccgcgc tgcacctgcgc gaagccgcgc tgcacctgcgc
960
gcgaagcgtc ctgcctgcaccc tgcctgcaccc tgcctgcaccc tgcctgcaccc tgcctgcaccc
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P6032062PCT-SG_20150619-133515_Corrected Sequence Listing

<212> PRT

<213> Trypanosoma cruzi

<400> 27

Met Val Ser Leu Lys Leu Gln Ala Arg Leu Ala Ala Asp Ile Leu Arg
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Cys Gly Arg His Arg Val Trp Leu Asp Pro Asn Glu Ala Ser Glu Ile
20 25 30

Ser Asn Ala Asn Ser Arg Lys Ser Val Arg Lys Leu Ile Lys Asp Gly
35 40 45

Leu Ile Ile Arg Lys Pro Val Lys Val His Ser Arg Ser Arg Trp Arg
50 55 60

His Met Lys Glu Ala Lys Ser Met Gly Arg His Glu Gly Ala Gly Arg
65 70 75 80

Arg Glu Gly Thr Arg Glu Ala Arg Met Pro Ser Lys Glu Leu Trp Met
85 90 95

Arg Arg Leu Arg Ile Leu Arg Arg Leu Leu Arg Lys Tyr Arg Glu Glu
100 105 110

Lys Lys Ile Asp Arg His Ile Tyr Arg Glu Leu Tyr Val Lys Ala Lys
115 120 125

Gly Asn Val Phe Arg Asn Lys Arg Asn Leu Met Glu His Ile His Lys
130 135 140

Val Lys Asn Glu Lys Lys Lys Glu Arg Gln Leu Ala Glu Gln Leu Ala
145 150 155 160

Ala Lys Arg Leu Lys Asp Glu Gln His Arg His Lys Ala Arg Lys Gln
165 170 175

Glu Leu Arg Lys Arg Glu Lys Asp Arg Glu Arg Ala Arg Arg Glu Asp
180 185 190

Ala Ala Ala Ala Ala Ala Ala Lys Gln Lys Ala Ala Ala Lys Lys Ala
195 200 205

Ala Ala Pro Ser Gly Lys Lys Ser Ala Lys Ala Ala Ala Pro Ala Lys
210 215 220

Ala Ala Ala Ala Pro Ala Lys Thr Ala Ala Pro Pro Ala Lys Ala Ala
225 230 235 240

P6032062PCT-SG_20150619-133515_Corrected Sequence Listing

Ala Pro Pro Ala Lys Ala Ala Ala Pro Pro Ala Lys Ala Ala Ala Pro
245 250 255

Pro Ala Lys Ala Ala Ala Pro Pro Ala Lys Ala Ala Ala Pro Pro Ala
260 265 270

Lys Ala Ala Ala Pro Pro Ala Lys Ala Ala Ala Pro Pro Ala Lys Ala
275 280 285

Ala Ala Pro Pro Ala Lys Ala Ala Ala Ala Pro Ala Lys Thr Ala Ala
290 295 300

Pro Pro Ala Lys Ala Ala Ala Ala Pro Ala Lys Thr Ala Ala Pro Pro
305 310 315 320

Ala Lys Thr Ala Ala Pro Pro Ala Lys Ala Ala Thr Pro Pro Ala Lys
325 330 335

Ala Ala Ala Pro Pro Ala Lys Ala Ala Ala Ala Pro Val Gly Lys Lys
340 345 350

Ala Gly Gly Lys Lys
355

<210> 28
<211> 1074
<212> DNA
<213> Trypanosoma cruzi

<400> 28
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cgtgtgtggc tggaccctaa tgaggcctct gagatttcca atgcaaactc gcgcaagagc 120
gtgcgcaagt tgatcaagga tggctctgatt attcgcaagc ctgtcaaggt gcaactcgcg 180
tcccgtggc gccacatgaa ggaggcgaag agcatgggccc gccacgaggg cgctgggccc 240
cgcgagggta cccgcgaagc ccgcatgccg agcaaggagc tgtggatgcg ccgtctgcgc 300
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cgcgagctgt acgtgaaggc gaaggggaac gtgtttcgca acaagcgtaa cctcatggag 420
cacatccaca aggtgaagaa cgagaagaag aaggaaaggc agctggctga gcagctcgcg 480
gcgaagcgcc tgaaggatga gcagcaccgt cacaaggccc gcaagcagga gctgcgtaag 540
cgcgagaagg accgcgagcg tgcgcgtcgc gaagatgctg ccgctgccgc cgccgcgaag 600
cagaaagctg ctgcgaagaa ggccgtgct cctctggca agaagtccgc gaaggctgct 660
gcacctgcca aggtgctgc tgcaccgcg aagaccgctg ctccaccgc gaaggccgct 720

P6032062PCT-SG_20150619-133515_Corrected Sequence Listing

gctccacccg cgaaggctgc tgctccaccc gcgaaggctg ctgctccacc cgcgaaggct 780
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 gcgaagaccg ctgctccacc cgcgaaggcc gctactccac ccgcgaaggc tgctgctcca 1020
 ccgcgaagg ctgctgctgc tcccgttgga aagaaggctg gtggcaagaa gtga 1074

<210> 29
 <211> 260
 <212> PRT
 <213> Trypanosoma brucei
 <400> 29

Met Val Ser Leu Lys Leu Gln Ala Arg Leu Ala Ala Asp Ile Leu Arg
 1 5 10 15

Cys Gly Arg Gly Arg Val Trp Leu Asp Pro Asn Glu Ala Val Glu Ile
 20 25 30

Arg Asn Ala Asn Ser Arg Lys Ser Val Arg Lys Leu Ile Lys Asp Gly
 35 40 45

Leu Val Met Arg Lys Pro Val Lys Val His Ser Arg Ser Arg Trp Arg
 50 55 60

Gln Met Lys Leu Ala Lys Ser Met Gly Arg His Glu Gly Thr Gly Arg
 65 70 75 80

Arg Glu Gly Thr Arg Glu Ala Arg Met Pro Ser Lys Asp Leu Trp Met
 85 90 95

Arg Arg Leu Arg Ile Leu Arg Arg Leu Leu Arg Lys Tyr Arg Glu Glu
 100 105 110

Lys Lys Ile Asp Arg His Ile Tyr Arg Glu Leu Tyr Met Lys Ala Lys
 115 120 125

Gly Asn Val Phe Arg Asn Lys Arg Asn Leu Met Glu His Ile His Lys
 130 135 140

Val Lys Asn Glu Lys Lys Lys Ala Arg Gln Leu Ala Glu Gln Leu Ala
 145 150 155 160

Ala Lys Arg Leu Lys Asp Glu Gln Asn Arg Arg Lys Ala Arg Lys Gln
 165 170 175

Glu Leu Lys Lys Arg Glu Lys Arg Glu Arg Glu Arg Ala Arg Asp Asp 180
185
190

Ala Ala Ala Ala Ala Arg Lys Glu Arg Ala Ala Lys Lys Ala 200
205

Ala Ala Pro Ala Ala Lys Lys Glu Lys Ala Val Ala Pro Ala Thr 210
215

Pro Ala Lys Ala Ala Pro Ala Lys Ala Ala Ala Lys Val Ala Pro 225
230
235
240

Ala Lys Ala Ala Pro Ala Lys Ala Ala Ser Pro Ala Glu Lys Lys Ala 245
250
255

Ala Gly Lys Lys 260

<210> 30
<211> 783
<212> DNA
<213> Trypanosoma brucei

<400> 30
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cgcgctgtgt tggaccctaa cgaagcagta gagattcgca atgccaatc acgcaagagt
120
gtacgcaagt tgatcaaga cgttttgta atgcgaagc ctgttaagt gcatctgctg
180
tccgctgctg gccagatgaa gttgctggaag agcatgggac gccacgaggg tacctggctg
240
cgcgaggtta ctgcggaagc accgatgccc agcaaggacc ttggatgctg ccgaattctg
300
attcttctgc gtttctctg caattaccgc gaagaaaga agattgatcg gcaatctac
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420
cacatccaca aggtgaagaa cgaagaagaa aaggtctgtc agcttgctga gcaactcgcg
480
gcgaacgcc taagygacga gcgaaccgc cgcaaggcac gaagcgagga gctgaagaa
540
cgtgaagaag aactgagctg tgacagcctg gacgatgctg ctgctgctgc cgtgcca
600
caagagctg ccggaagaa ggttgcctc cctgctgcca agaagggtgg caaggtctgt
660
gcccccgcca ctcttgcaa ggcgccccct gcaaggccg cgtctgcaa ggttgcccc
720
gcgaagctg ctccgcaaa ggcgccaag cctgcccagc agaaagcagc ggttaagaa
780
tga
783

P6032062PCT-SG_20150619-133515_Corrected Sequence Listing

<212> PRT
<213> artificial

<220>
<223> peptide 1

<400> 31

Met Thr Pro Leu Ser Leu Ser Ser Ser Arg His Ser Phe Lys Gln Asn
1 5 10 15

Glu Thr Gln Asn
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<210> 32
<211> 20
<212> PRT
<213> artificial

<220>
<223> peptide 2

<400> 32

Ser Phe Lys Gln Asn Glu Thr Gln Asn Met Val Ser Leu Lys Leu Gln
1 5 10 15

Ala Arg Leu Ala
20

<210> 33
<211> 20
<212> PRT
<213> artificial

<220>
<223> peptide 3

<400> 33

Ser Leu Lys Leu Gln Ala Arg Leu Ala Ser Ser Ile Leu Gly Cys Gly
1 5 10 15

Arg Ala Arg Val
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<210> 34
<211> 20
<212> PRT
<213> artificial

<220>
<223> peptide 4

<400> 34

Ile Leu Gly Cys Gly Arg Ala Arg Val Trp Leu Asp Pro Asn Glu Ala
Page 27

P6032062PCT-SG_20150619-133515_Corrected Sequence Listing

1 5 10 15
Val Glu Ile Gln
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<210> 35
<211> 20
<212> PRT
<213> artificial
<220>
<223> peptide 5
<400> 35
Asp Pro Asn Glu Ala Val Glu Ile Gln Asn Ala Asn Ser Arg Lys Ser
1 5 10 15

Val Arg Lys Leu
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<210> 36
<211> 20
<212> PRT
<213> artificial
<220>
<223> peptide 6
<400> 36
Asn Ser Arg Lys Ser Val Arg Lys Leu Ile Lys Asp Gly Phe Ile Ile
1 5 10 15

Arg Lys Pro Val
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<210> 37
<211> 20
<212> PRT
<213> artificial
<220>
<223> peptide 7
<400> 37
Asp Gly Phe Ile Ile Arg Lys Pro Val Lys Val His Ser Arg Ala Arg
1 5 10 15

Trp Arg Lys Met
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<210> 38
<211> 20

P6032062PCT-SG_20150619-133515_Corrected Sequence Listing

<212> PRT
<213> artificial

<220>
<223> peptide 8

<400> 38

His Ser Arg Ala Arg Trp Arg Lys Met Lys Glu Ala Lys Asp Met Gly
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Arg His Asn Gly
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<210> 39
<211> 20
<212> PRT
<213> artificial

<220>
<223> peptide 9

<400> 39

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

Arg Glu Ala Arg
20

<210> 40
<211> 20
<212> PRT
<213> artificial

<220>
<223> peptide 10

<400> 40

Arg Arg Glu Gly Ser Arg Glu Ala Arg Met Pro Ser Lys Glu Leu Trp
1 5 10 15

Met Arg Arg Leu
20

<210> 41
<211> 20
<212> PRT
<213> artificial

<220>
<223> peptide 11

<400> 41

Ser Lys Glu Leu Trp Met Arg Arg Leu Arg Ile Leu Arg Arg Leu Leu
Page 29

1

5

10

15

Arg Lys Tyr Arg
20

<210> 42
<211> 20
<212> PRT
<213> artificial

<220>
<223> peptide 12

<400> 42

Leu Arg Arg Leu Leu Arg Lys Tyr Arg Ala Asp Lys Lys Ile Asp Arg
1 5 10 15

His Val Tyr Arg
20

<210> 43
<211> 20
<212> PRT
<213> artificial

<220>
<223> peptide 13

<400> 43

Lys Lys Ile Asp Arg His Val Tyr Arg Asp Leu Tyr Met Arg Ala Lys
1 5 10 15

Gly Asn Val Phe
20

<210> 44
<211> 20
<212> PRT
<213> artificial

<220>
<223> peptide 14

<400> 44

Tyr Met Arg Ala Lys Gly Asn Val Phe Arg Asn Lys Arg Asn Leu Val
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Glu His Ile His
20

<210> 45
<211> 20

P6032062PCT-SG_20150619-133515_Corrected Sequence Listing

<212> PRT
<213> artificial

<220>
<223> peptide 15

<400> 45

Lys Arg Asn Leu Val Glu His Ile His Lys Ile Lys Asn Glu Lys Lys
1 5 10 15

Lys Glu Arg Gln
20

<210> 46
<211> 20
<212> PRT
<213> artificial

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<223> peptide 16

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Glu Thr Gln Asn Met Val Ser Leu Lys Leu Gln Ala Arg Leu Ala
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His Val Tyr Arg Asp Leu Tyr Met Arg Ala Lys Gly Asn Val Phe Arg
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Asn Lys Arg Asn Leu Val Glu His Ile His
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Ala Ala Pro Val Lys Lys Ser Lys Lys
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