SEQUENCE LISTING

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<120> DENGUE VIRUS VACCINE COMPOSITIONS AND METHODS OF USE THEREOF

<130> 23532-WO-PCT

<150> 61/837,721
<151> 2013-06-21

<160> 5

<170> PatentIn version 3.5

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Met Arg Cys Val Gly Ile Gly Ser Arg Asp Phe Val Glu Gly Leu Ser
1 5 10 15

Gly Ala Thr Trp Val Asp Val Val Leu Glu His Gly Ser Cys Val Thr
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Thr Met Ala Lys Asp Lys Pro Thr Leu Asp Ile Glu Leu Leu Lys Thr
35 40 45

Glu Val Thr Asn Pro Ala Val Leu Arg Lys Leu Cys Ile Glu Ala Lys
50 55 60

Ile Ser Asn Thr Thr Thr Asp Ser Arg Cys Pro Thr Gln Gly Glu Ala
65 70 75 80

Thr Leu Val Glu Glu Gln Asp Ala Asn Phe Val Cys Arg Arg Thr Phe
85 90 95

Val Asp Arg Gly Trp Gly Asn Gly Cys Gly Leu Phe Gly Lys Gly Ser
100 105 110

Leu Ile Thr Cys Ala Lys Phe Lys Cys Val Thr Lys Leu Glu Gly Lys
115 120 125

Ile Val Gln Tyr Glu Asn Leu Lys Tyr Ser Val Ile Val Thr Val His
130 135 140

Thr Gly Asp Gln His Gln Val Gly Asn Glu Ser Thr Glu His Gly Thr
145 150 155 160

Thr Ala Thr Ile Thr Pro Gln Ala Pro Thr Ser Glu Ile Gln Leu Thr
165 170 175

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Asp Tyr Gly Ala Leu Thr Leu Asp Cys Ser Pro Arg Thr Gly Leu Asp
            180                 185                 190

Phe Asn Glu Met Val Leu Leu Thr Met Lys Glu Lys Ser Trp Leu Val
        195                 200                 205

His Lys Gln Trp Phe Leu Asp Leu Pro Leu Pro Trp Thr Ser Gly Ala
    210                 215                 220

Ser Thr Ser Gln Glu Thr Trp Asn Arg Gln Asp Leu Leu Val Thr Phe
225                 230                 235                 240

Lys Thr Ala His Ala Lys Lys Gln Glu Val Val Val Leu Gly Ser Gln
                245                 250                 255

Glu Gly Ala Met His Thr Ala Leu Thr Gly Ala Thr Glu Ile Gln Thr
            260                 265                 270

Ser Gly Thr Thr Thr Ile Phe Ala Gly His Leu Lys Cys Arg Leu Lys
        275                 280                 285

Met Asp Lys Leu Thr Leu Lys Gly Met Ser Tyr Val Met Cys Thr Gly
    290                 295                 300

Ser Phe Lys Leu Glu Lys Glu Val Ala Glu Thr Gln His Gly Thr Val
305                 310                 315                 320

Leu Val Gln Ile Lys Tyr Glu Gly Thr Asp Ala Pro Cys Lys Ile Pro
                325                 330                 335

Phe Ser Thr Gln Asp Glu Arg Gly Val Thr Gln Asn Gly Arg Leu Ile
            340                 345                 350

Thr Ala Asn Pro Ile Val Thr Asp Lys Glu Lys Pro Val Asn Ile Glu
        355                 360                 365

Ala Glu Pro Pro Phe Gly Glu Ser Tyr Ile Val Ile Gly Ala Gly Glu
    370                 375                 380

Lys Ala Leu Lys Leu Ser Trp Phe Lys Lys Gly
385                 390                 395
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Gly Gly Ser Trp Val Asp Ile Val Leu Glu His Gly Ser Cys Val Thr
            20                  25                  30

Thr Met Ala Lys Asn Lys Pro Thr Leu Asp Phe Glu Leu Ile Lys Thr
        35                  40                  45

Glu Ala Lys Gln Pro Ala Thr Leu Arg Lys Tyr Cys Ile Glu Ala Lys
    50                  55                  60

Leu Thr Asn Thr Thr Thr Asp Ser Arg Cys Pro Thr Gln Gly Glu Pro
65                  70                  75                  80

Thr Leu Asn Glu Glu Gln Asp Lys Arg Phe Val Cys Lys His Ser Met
                85                  90                  95

Val Asp Arg Gly Trp Gly Asn Gly Cys Gly Leu Phe Gly Lys Gly Gly
            100                 105                 110

Ile Val Thr Cys Ala Met Phe Thr Cys Lys Lys Asn Met Glu Gly Lys
        115                 120                 125

Ile Val Gln Pro Glu Asn Leu Glu Tyr Thr Val Val Ile Thr Pro His
    130                 135                 140

Ser Gly Glu Glu His Ala Val Gly Asn Asp Thr Gly Lys His Gly Lys
145                 150                 155                 160

Glu Val Lys Ile Thr Pro Gln Ser Ser Ile Thr Glu Ala Glu Leu Thr
                165                 170                 175

Gly Tyr Gly Thr Val Thr Met Glu Cys Ser Pro Arg Thr Gly Leu Asp
            180                 185                 190

Phe Asn Glu Met Val Leu Leu Gln Met Lys Asp Lys Ala Trp Leu Val
        195                 200                 205

His Arg Gln Trp Phe Leu Asp Leu Pro Leu Pro Trp Leu Pro Gly Ala
    210                 215                 220

Asp Thr Gln Gly Ser Asn Trp Ile Gln Lys Glu Thr Leu Val Thr Phe
225                 230                 235                 240

Lys Asn Pro His Ala Lys Lys Gln Asp Val Val Val Leu Gly Ser Gln
                245                 250                 255

Glu Gly Ala Met His Thr Ala Leu Thr Gly Ala Thr Glu Ile Gln Met
            260                 265                 270

Ser Ser Gly Asn Leu Leu Phe Thr Gly His Leu Lys Cys Arg Leu Arg
        275                 280                 285
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Met Asp Lys Leu Gln Leu Lys Gly Met Ser Tyr Ser Met Cys Thr Gly
    290                 295                 300

Lys Phe Lys Val Val Lys Glu Ile Ala Glu Thr Gln His Gly Thr Ile
305                 310                 315                 320

Val Ile Arg Val Gln Tyr Glu Gly Asp Gly Ser Pro Cys Lys Ile Pro
                325                 330                 335

Phe Glu Ile Met Asp Leu Glu Lys Arg His Val Leu Gly Arg Leu Ile
            340                 345                 350

Thr Val Asn Pro Ile Val Thr Glu Lys Asp Ser Pro Val Asn Ile Glu
        355                 360                 365

Ala Glu Pro Pro Phe Gly Asp Ser Tyr Ile Ile Ile Gly Val Glu Pro
    370                 375                 380

Gly Gln Leu Lys Leu Asp Trp Phe Lys Lys Gly
385                 390                 395
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            20                  25                  30

Thr Met Ala Lys Asn Lys Pro Thr Leu Asp Ile Glu Leu Gln Lys Thr
        35                  40                  45

Glu Ala Thr Gln Leu Ala Thr Leu Arg Lys Leu Cys Ile Glu Gly Lys
    50                  55                  60

Ile Thr Asn Ile Thr Thr Asp Ser Arg Cys Pro Thr Gln Gly Glu Ala
65                  70                  75                  80

Ile Leu Pro Glu Glu Gln Asp Gln Asn Tyr Val Cys Lys His Thr Tyr
                85                  90                  95

Val Asp Arg Gly Trp Gly Asn Gly Cys Gly Leu Phe Gly Lys Gly Ser
            100                 105                 110

Leu Val Thr Cys Ala Lys Phe Gln Cys Leu Glu Ser Ile Glu Gly Lys
        115                 120                 125
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Val Val Gln His Glu Asn Leu Lys Tyr Thr Val Ile Ile Thr Val His
    130                 135                 140

Thr Gly Asp Gln His Gln Val Gly Asn Glu Thr Gln Gly Val Thr Ala
145                 150                 155                 160

Glu Ile Thr Pro Gln Ala Ser Thr Val Glu Ala Ile Leu Pro Glu Tyr
                165                 170                 175

Gly Thr Leu Gly Leu Glu Cys Ser Pro Arg Thr Gly Leu Asp Phe Asn
            180                 185                 190

Glu Met Ile Leu Leu Thr Met Lys Asn Lys Ala Trp Met Val His Arg
        195                 200                 205

Gln Trp Phe Phe Asp Leu Pro Leu Pro Trp Thr Ser Gly Ala Thr Thr
    210                 215                 220

Glu Thr Pro Thr Trp Asn Arg Lys Glu Leu Leu Val Thr Phe Lys Asn
225                 230                 235                 240

Ala His Ala Lys Lys Gln Glu Val Val Val Leu Gly Ser Gln Glu Gly
                245                 250                 255

Ala Met His Thr Ala Leu Thr Gly Ala Thr Glu Ile Gln Asn Ser Gly
            260                 265                 270

Gly Thr Ser Ile Phe Ala Gly His Leu Lys Cys Arg Leu Lys Met Asp
        275                 280                 285

Lys Leu Glu Leu Lys Gly Met Ser Tyr Ala Met Cys Leu Asn Thr Phe
    290                 295                 300

Val Leu Lys Lys Glu Val Ser Glu Thr Gln His Gly Thr Ile Leu Ile
305                 310                 315                 320

Lys Val Glu Tyr Lys Gly Glu Asp Ala Pro Cys Lys Ile Pro Phe Ser
                325                 330                 335

Thr Glu Asp Gly Gln Gly Lys Ala His Asn Gly Arg Leu Ile Thr Ala
            340                 345                 350

Asn Pro Val Val Thr Lys Lys Glu Glu Pro Val Asn Ile Glu Ala Glu
        355                 360                 365

Pro Pro Phe Gly Glu Ser Asn Ile Val Ile Gly Ile Gly Asp Lys Ala
    370                 375                 380

Leu Lys Ile Asn Trp Tyr Lys Lys Gly
385                 390
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Gly Gly Ala Trp Val Asp Leu Val Leu Glu His Gly Gly Cys Val Thr
            20                  25                  30

Thr Met Ala Gln Gly Lys Pro Thr Leu Asp Phe Glu Leu Ile Lys Thr
        35                  40                  45

Thr Ala Lys Glu Val Ala Leu Leu Arg Thr Tyr Cys Ile Glu Ala Ser
    50                  55                  60

Ile Ser Asn Ile Thr Thr Ala Thr Arg Cys Pro Thr Gln Gly Glu Pro
65                  70                  75                  80

Tyr Leu Lys Glu Glu Gln Asp Gln Gln Tyr Ile Cys Arg Arg Asp Val
                85                  90                  95

Val Asp Arg Gly Trp Gly Asn Gly Cys Gly Leu Phe Gly Lys Gly Gly
            100                 105                 110

Val Val Thr Cys Ala Lys Phe Ser Cys Ser Gly Lys Ile Thr Gly Asn
        115                 120                 125

Leu Val Gln Ile Glu Asn Leu Glu Tyr Thr Val Val Val Thr Val His
    130                 135                 140

Asn Gly Asp Thr His Ala Val Gly Asn Asp Thr Ser Asn His Gly Val
145                 150                 155                 160

Thr Ala Thr Ile Thr Pro Arg Ser Pro Ser Val Glu Val Lys Leu Pro
                165                 170                 175

Asp Tyr Gly Glu Leu Thr Leu Asp Cys Glu Pro Arg Ser Gly Ile Asp
            180                 185                 190

Phe Asn Glu Met Ile Leu Met Lys Met Lys Lys Lys Thr Trp Leu Val
        195                 200                 205

His Lys Gln Trp Phe Leu Asp Leu Pro Leu Pro Trp Ala Ala Gly Ala
    210                 215                 220

Asp Thr Ser Glu Val His Trp Asn Tyr Lys Glu Arg Met Val Thr Phe
225                 230                 235                 240

Lys Val Pro His Ala Lys Arg Gln Asp Val Thr Val Leu Gly Ser Gln
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245 250 255

Glu Gly Ala Met His Ser Ala Leu Thr Gly Ala Thr Glu Val Asp Ser
260 265 270

Gly Asp Gly Asn His Met Tyr Ala Gly His Leu Lys Cys Lys Val Arg
275 280 285

Met Glu Lys Leu Arg Ile Lys Gly Met Ser Tyr Thr Met Cys Ser Gly
290 295 300

Lys Phe Ser Ile Asp Lys Glu Met Ala Glu Thr Gln His Gly Thr Thr
305 310 315 320

Val Val Lys Val Lys Tyr Glu Gly Ala Gly Ala Pro Cys Lys Val Pro
325 330 335

Ile Glu Ile Arg Asp Val Asn Lys Glu Lys Val Val Gly Arg Ile Ile
340 345 350

Ser Ser Thr Pro Phe Ala Glu Tyr Thr Asn Ser Val Thr Asn Ile Glu
355 360 365

Leu Glu Pro Pro Phe Gly Asp Ser Tyr Ile Val Ile Gly Val Gly Asp
370 375 380

Ser Ala Leu Thr Leu His Trp Phe Arg Lys Gly
385 390 395

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Gly Gly Ala Trp Val Asp Leu Val Leu Glu His Gly Gly Cys Val Thr
20 25 30

Thr Met Ala Gln Gly Lys Pro Thr Leu Asp Phe Glu Leu Ile Lys Thr
35 40 45

Thr Ala Lys Glu Val Ala Leu Leu Arg Thr Tyr Cys Ile Glu Ala Ser
50 55 60

Ile Ser Asn Ile Thr Thr Ala Thr Arg Cys Pro Thr Gln Gly Glu Pro
65 70 75 80

```
Tyr Leu Lys Glu Glu Gln Asp Gln Gln Tyr Ile Cys Arg Arg Asp Val
                85                  90                  95

Val Asp Arg Gly Trp Gly Asn Gly Cys Gly Leu Phe Gly Lys Gly Gly
            100                 105                 110

Val Val Thr Cys Ala Lys Phe Ser Cys Ser Gly Lys Ile Thr Gly Asn
        115                 120                 125

Leu Val Gln Ile Glu Asn Leu Glu Tyr Thr Val Val Val Thr Val His
    130                 135                 140

Asn Gly Asp Thr His Ala Val Gly Asn Asp Thr Ser Asn His Gly Val
145                 150                 155                 160

Thr Ala Thr Ile Thr Pro Arg Ser Pro Ser Val Glu Val Lys Leu Pro
                165                 170                 175

Asp Tyr Gly Glu Leu Thr Leu Asp Cys Glu Pro Arg Ser Gly Ile Asp
            180                 185                 190

Phe Asn Glu Met Ile Leu Met Lys Met Lys Lys Lys Thr Trp Leu Val
        195                 200                 205

His Lys Gln Trp Phe Leu Asp Leu Pro Leu Pro Trp Ala Ala Gly Ala
    210                 215                 220

Asp Thr Ser Glu Val His Trp Asn Tyr Lys Glu Arg Met Val Thr Phe
225                 230                 235                 240

Lys Val Pro His Ala Lys Arg Gln Asp Val Thr Val Leu Gly Ser Gln
                245                 250                 255

Glu Gly Ala Met His Ser Ala Leu Thr Gly Ala Thr Glu Val Asp Ser
            260                 265                 270

Gly Asp Gly Asn His Met Tyr Ala Gly His Leu Lys Cys Lys Val Arg
        275                 280                 285

Met Glu Lys Leu Arg Ile Lys Gly Met Ser Tyr Thr Met Cys Ser Gly
    290                 295                 300

Lys Phe Ser Ile Asp Lys Glu Met Ala Glu Thr Gln His Gly Thr Thr
305                 310                 315                 320

Val Val Lys Val Lys Tyr Glu Gly Ala Gly Ala Pro Cys Lys Val Pro
                325                 330                 335

Ile Glu Ile Arg Asp Val Asn Lys Glu Lys Val Val Gly Arg Ile Ile
            340                 345                 350
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```
Ser Ser Thr Pro Phe Ala Glu Tyr Thr Asn Ser Val Thr Asn Ile Glu
        355                 360                 365

Leu Glu Pro Pro Phe Gly Asp Ser Tyr Ile Val Ile Gly Val Gly Asp
    370                 375                 380

Ser Ala Leu Thr Leu His Trp Phe Arg Lys Gly Gly Gly Gly Ser Gly
385                 390                 395                 400

Gly Gly Gly Thr Gly Gly Gly Ser Gly Gly Gly Ser Pro Arg Met Lys
                405                 410                 415

Gln Leu Glu Asp Lys Val Glu Glu Leu Leu Ser Lys Asn Tyr His Leu
            420                 425                 430

Glu Asn Glu Val Ala Arg Leu Lys Lys Leu Val Gly Glu Arg Gly Gly
        435                 440                 445

Cys Gly Gly
    450
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