SEQUENCE LISTING

<110> ACADEMIA SINICA

<120> AN EPITOPE-SUBSTITUTED VACCINE FOR USE IN IMPROVING SAFETY AND IMMUNOGENICITY AGAINST DENGUE VIRUSES

<130> 10011-047PCT

<150> US 62/113811
<151> 2015-02-09

<160> 28

<170> PatentIn version 3.5

<210> 1
<211> 395
<212> PRT
<213> Dengue virus

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Met Arg Cys Ile Gly Met Ser Asn Arg Asp Phe Val Glu Gly Val Ser
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Gly Gly Ser Trp Val Asp Ile Val Leu Glu His Gly Ser Cys Val Thr
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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 Glu Ser Arg Cys Pro Thr Gln Gly Glu Pro
65 70 75 80

Ser 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 Arg Cys Lys Lys Asn Met Glu Gly Lys
115 120 125

Val Val Gln Pro Glu Asn Leu Glu Tyr Thr Ile 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 Ile Lys Ile Thr Pro Gln Ser Ser Ile Thr Glu Ala Glu Leu Thr

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

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
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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
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Gly Gln Leu Lys Leu Asn Trp Phe Lys Lys Gly
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Asn Gln Ile Tyr Asn Arg Asp Tyr Thr Glu Pro Thr
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Tyr Asn Arg Asp Met Leu Glu Thr Asp Tyr Val Asn
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Gln Asn Thr Trp Asn Arg Asp Ser Ile Glu Glu Thr
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Phe Pro Glu Val Ser Val Asn Arg Leu Val Val Glu
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His Val Asn Arg Leu His Val Glu Gly Pro Val Pro
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Lys Met Thr Leu Pro Met Asn Arg Ser His Val Glu
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Ser Tyr Val Thr Gly Gly Asn Arg Tyr Ala Val Glu
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Ser Ser Tyr Leu Ser Asn Arg Leu Phe Thr Glu Ala
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Ser Ala Thr Thr Met Ser Asn Arg Tyr Tyr Thr Glu
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<223> PC21-5

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Gln Pro Tyr Asn Arg Ser Tyr Ile Asp Phe Met Val
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Asn Arg Asp Phe Val Glu
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Leu Ser Asn Arg Leu His Val Glu Ser Leu Glu Leu
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Val Asn Arg Pro Trp Val Glu Thr Thr Thr Gln Gly
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Ile Val Pro Tyr Ser Asn Arg Thr Val Thr Glu Thr
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Asn Arg Val Ser Asn Glu Pro Phe Trp Asp Ile Ala
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Asp Tyr Leu Asn Arg Ser Thr Asn Glu Pro Ala Leu
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His Thr Ser Leu His Ser Gly Arg Asn Ser Val Glu
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<400> 24

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Met Pro Ser Gly Gly Arg Phe Leu Val Glu Gly Ala
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<223> Xaa can be any naturally occurring amino acid

<400> 28

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