

Sequence Listing

<110> National Cheng Kung University

<120> COMPOSITION OF SUBUNIT DENGUE VACCINE

<130> None

<150> US 16/906,134

<151> 2020-06-19

<160> 6

<210> 1

<211> 100

<212> PRT

<213> Artificial sequence

<220>

<223> cEDIll polypeptide of dengue virus

<400> 1

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Lys Gly Met Ser Tyr Ala Met Cys Thr Gly Lys Phe Lys Leu Glu Lys
      5          10          15
Glu Val Ala Glu Thr Gln His Gly Thr Ile Leu Ile Lys Val Lys Tyr
      20          25          30
Glu Gly Asp Gly Ala Pro Cys Lys Ile Pro Phe Glu Ile Gln Asp Val
      35          40          45
Glu Lys Lys His Val Asn Gly Arg Leu Ile Thr Ala Asn Pro Ile Val
      50          55          60
Thr Asp Lys Glu Ser Pro Val Asn Ile Glu Ala Glu Pro Pro Phe Gly
      65          70          75          80
Asp Ser Tyr Ile Val Ile Gly Val Gly Asp Lys Ala Leu Lys Leu Asn
      85          90          95
Trp Phe Lys Lys
      100

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<210> 2

<211> 275

<212> PRT

<213> Artificial sequence

<220>

<223> delta C NS1 (NS1ΔC) of dengue virus

<400> 2

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Met Val Gln Ala Asp Ser Gly Cys Val Val Ser Trp Lys Asn Lys Glu
      5          10          15
Leu Lys Cys Gly Ser Gly Ile Phe Ile Thr Asp Asn Val His Thr Trp
      20          25          30
Thr Glu Gln Tyr Lys Phe Gln Pro Glu Ser Pro Ser Lys Leu Ala Ser
      35          40          45
Ala Ile Gln Lys Ala His Glu Glu Gly Ile Cys Gly Ile Arg Ser Val

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50 55 60
 Thr Arg Leu Glu Asn Leu Met Trp Lys Gln Ile Thr Pro Glu Leu Asn
 65 70 75 80
 His Ile Leu Ser Glu Asn Glu Val Lys Leu Thr Ile Met Thr Gly Asp
 85 90 95
 Ile Lys Gly Ile Met Gln Ala Gly Lys Arg Ser Leu Gln Pro Gln Pro
 100 105 110
 Thr Glu Leu Lys Tyr Ser Trp Lys Thr Trp Gly Lys Ala Lys Met Leu
 115 120 125
 Ser Thr Glu Ser His Asn Gln Thr Phe Leu Ile Asp Gly Pro Glu Thr
 130 135 140
 Ala Glu Cys Pro Asn Thr Asn Arg Ala Trp Asn Ser Leu Glu Val Glu
 145 150 155 160
 Asp Tyr Gly Phe Gly Val Phe Thr Thr Asn Ile Trp Leu Lys Leu Arg
 165 170 175
 Glu Lys Gln Asp Val Phe Cys Asp Ser Lys Leu Met Ser Ala Ala Ile
 180 185 190
 Lys Asp Asn Arg Ala Val His Ala Asp Met Gly Tyr Trp Ile Glu Ser
 195 200 205
 Ala Leu Asn Asp Thr Trp Lys Ile Glu Lys Ala Ser Phe Ile Glu Val
 210 215 220
 Lys Ser Cys His Trp Pro Lys Ser His Thr Leu Trp Ser Asn Gly Val
 225 230 235 240
 Leu Glu Ser Glu Met Ile Ile Pro Lys Asn Phe Ala Gly Pro Val Ser
 245 250 255
 Gln His Asn Tyr Arg Pro Gly Tyr His Thr Gln Thr Ala Gly Pro Trp
 260 265 270
 His Leu Gly
 275

<210> 3

<211> 448

<212> PRT

<213> Artificial sequence

<220>

<223> NS3c protein of dengue virus

<400> 3

Ser Ile Glu Asp Asn Pro Glu Ile Glu Asp Asp Ile Phe Arg Lys Arg
 5 10 15
 Lys Leu Thr Ile Met Asp Leu His Pro Gly Ala Gly Lys Thr Lys Arg
 20 25 30
 Tyr Leu Pro Ala Ile Val Arg Glu Ala Ile Lys Arg Gly Leu Arg Thr
 35 40 45
 Leu Ile Leu Ala Pro Thr Arg Val Val Ala Ala Glu Met Glu Glu Ala
 50 55 60
 Leu Arg Gly Leu Pro Ile Arg Tyr Gln Thr Pro Ala Ile Arg Ala Glu
 65 70 75 80
 His Thr Gly Arg Glu Ile Val Asp Leu Met Cys His Ala Thr Phe Thr
 85 90 95
 Met Arg Leu Leu Ser Pro Val Arg Val Pro Asn Tyr Asn Leu Ile Ile
 100 105 110
 Met Asp Glu Ala His Phe Thr Asp Pro Ala Ser Ile Ala Ala Arg Gly
 115 120 125

Tyr Ile Ser Thr Arg Val Glu Met Gly Glu Ala Ala Gly Ile Phe Met
 130 135 140
 Thr Ala Thr Pro Pro Gly Ser Arg Asp Pro Phe Pro Gln Ser Asn Ala
 145 150 155 160
 Pro Ile Met Asp Glu Glu Arg Glu Ile Pro Glu Arg Ser Trp Ser Ser
 165 170 175
 Gly His Glu Trp Val Thr Asp Phe Lys Gly Lys Thr Val Trp Phe Val
 180 185 190
 Pro Ser Ile Lys Ala Gly Asn Asp Ile Ala Ala Cys Leu Arg Lys Asn
 195 200 205
 Gly Lys Lys Val Ile Gln Leu Ser Arg Lys Thr Phe Asp Ser Glu Tyr
 210 215 220
 Val Lys Thr Arg Thr Asn Asp Trp Asp Phe Val Val Thr Thr Asp Ile
 225 230 235 240
 Ser Glu Met Gly Ala Asn Phe Lys Ala Glu Arg Val Ile Asp Pro Arg
 245 250 255
 Arg Cys Met Lys Pro Val Ile Leu Thr Asp Gly Glu Glu Arg Val Ile
 260 265 270
 Leu Ala Gly Pro Met Pro Val Thr His Ser Ser Ala Ala Gln Arg Arg
 275 280 285
 Gly Arg Ile Gly Arg Asn Pro Lys Asn Glu Asn Asp Gln Tyr Ile Tyr
 290 295 300
 Met Gly Glu Pro Leu Glu Asn Asp Glu Asp Cys Ala His Trp Lys Glu
 305 310 315 320
 Ala Lys Met Leu Leu Asp Asn Ile Asn Thr Pro Glu Gly Ile Ile Pro
 325 330 335
 Ser Met Phe Glu Pro Glu Arg Glu Lys Val Asp Ala Ile Asp Gly Glu
 340 345 350
 Tyr Arg Leu Arg Gly Glu Ala Arg Lys Thr Phe Val Asp Leu Met Arg
 355 360 365
 Arg Gly Asp Leu Pro Val Trp Leu Ala Tyr Arg Val Ala Ala Glu Gly
 370 375 380
 Ile Asn Tyr Ala Asp Arg Arg Trp Cys Phe Asp Gly Ile Lys Asn Asn
 385 390 395 400
 Gln Ile Leu Glu Glu Asn Val Glu Val Glu Ile Trp Thr Lys Glu Gly
 405 410 415
 Glu Arg Lys Lys Leu Lys Pro Arg Trp Leu Asp Ala Arg Ile Tyr Ser
 420 425 430
 Asp Pro Leu Ala Leu Lys Glu Phe Lys Glu Phe Ala Ala Gly Arg Lys
 435 440 445

<210> 4

<211> 101

<212> PRT

<213> Artificial sequence

<220>

<223> Mimic DENV2 cEDIII (strain 16681, 295-395 a.a.)

<400> 4

Lys Gly Met Ser Tyr Ser Met Cys Thr Gly Lys Phe Lys Val Val Lys

5 10 15

Glu Ile Ala Glu Thr Gln His Gly Thr Ile Val Ile Arg Val Gln Tyr

20 25 30

Glu Gly Asp Gly Ser Pro Cys Lys Ile Pro Phe Glu Ile Met Asp Leu

35 40 45
 Glu Lys Arg His Val Leu Gly Arg Leu Ile Thr Val Asn Pro Ile Val
 50 55 60
 Thr Glu Lys Asp Ser Pro Val Asn Ile Glu Ala Glu Pro Pro Phe Gly
 65 70 75 80
 Asp Ser Tyr Ile Ile Ile Gly Val Glu Pro Gly Gln Leu Lys Leu Asn
 85 90 95
 Trp Phe Lys Lys Gly
 100

<210> 5

<211> 154

<212> PRT

<213> Artificial sequence

<220>

<223> truncated delta C NS1 (DENV2 strain 16681, 91-244 a.a.)

<400> 5

Gly Asp Ile Lys Gly Ile Met Gln Ala Gly Lys Arg Ser Leu Arg Pro
 5 10 15
 Gln Pro Thr Glu Leu Lys Tyr Ser Trp Lys Thr Trp Gly Lys Ala Lys
 20 25 30
 Met Leu Ser Thr Glu Ser His Asn Gln Thr Phe Leu Ile Asp Gly Pro
 35 40 45
 Glu Thr Ala Glu Cys Pro Asn Thr Asn Arg Ala Trp Asn Ser Leu Glu
 50 55 60
 Val Glu Asp Tyr Gly Phe Gly Val Phe Thr Thr Asn Ile Trp Leu Lys
 65 70 75 80
 Leu Lys Glu Lys Gln Asp Val Phe Cys Asp Ser Lys Leu Met Ser Ala
 85 90 95
 Ala Ile Lys Asp Asn Arg Ala Val His Ala Asp Met Gly Tyr Trp Ile
 100 105 110
 Glu Ser Ala Leu Asn Asp Thr Trp Lys Ile Glu Lys Ala Ser Phe Ile
 115 120 125
 Glu Val Lys Asn Cys His Trp Pro Lys Ser His Thr Leu Trp Ser Asn
 130 135 140
 Gly Val Leu Glu Ser Glu Met Ile Ile Pro
 145 150

<210> 6

<211> 91

<212> PRT

<213> Artificial sequence

<220>

<223> truncated NS3c (DENV3 strain D3/H/IMTSSA-SRI/2000/1266, 367-457 a.a.)

<400> 6

Lys Ala Gly Asn Asp Ile Ala Asn Cys Leu Arg Lys Asn Gly Lys Lys
 5 10 15

Val Ile Gln Leu Ser Arg Lys Thr Phe Asp Thr Glu Tyr Gln Lys Thr
20 25 30
Lys Leu Asn Asp Trp Asp Phe Val Val Thr Thr Asp Ile Ser Glu Met
35 40 45
Gly Ala Asn Phe Lys Ala Asp Arg Val Ile Asp Pro Arg Arg Cys Leu
50 55 60
Lys Pro Val Ile Leu Thr Asp Gly Pro Glu Arg Val Ile Leu Ala Gly
65 70 75 80
Pro Met Pro Val Thr Ala Ala Ser Ala Ala Gln
85 90