SEQUENCE LISTING

<110> GlaxoSmithKline Biologicals S.A

<120> IMMUNOGENIC COMPOSITION

<130> VB65266

<160> 4

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 818
<212> PRT
<213> Streptococcus pneumoniae

<400> 1

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Asn Leu Thr Pro Asp Glu Val Ser Lys Arg Glu Gly Ile Asn Ala Glu
        35                  40                  45
Gln Ile Val Ile Lys Ile Thr Asp Gln Gly Tyr Val Thr Ser His Gly
    50                  55                  60
Asp His Tyr His Tyr Tyr Asn Gly Lys Val Pro Tyr Asp Ala Ile Ile
65                  70                  75                  80
Ser Glu Glu Leu Leu Met Lys Asp Pro Asn Tyr Gln Leu Lys Asp Ser
                85                  90                  95
Asp Ile Val Asn Glu Ile Lys Gly Gly Tyr Val Ile Lys Val Asp Gly
            100                 105                 110
Lys Tyr Tyr Val Tyr Leu Lys Asp Ala Ala His Ala Asp Asn Ile Arg
        115                 120                 125
Thr Lys Glu Glu Ile Lys Arg Gln Lys Gln Glu His Ser His Asn His
    130                 135                 140
Gly Gly Gly Ser Asn Asp Gln Ala Val Val Ala Ala Arg Ala Gln Gly
145                 150                 155                 160
Arg Tyr Thr Thr Asp Asp Gly Tyr Ile Phe Asn Ala Ser Asp Ile Ile
                165                 170                 175
Glu Asp Thr Gly Asp Ala Tyr Ile Val Pro His Gly Asp His Tyr His
            180                 185                 190
Tyr Ile Pro Lys Asn Glu Leu Ser Ala Ser Glu Leu Ala Ala Ala Glu
        195                 200                 205
Ala Tyr Trp Asn Gly Lys Gln Gly Ser Arg Pro Ser Ser Ser Ser Ser
    210                 215                 220
Tyr Asn Ala Asn Pro Ala Gln Pro Arg Leu Ser Glu Asn His Asn Leu
225                 230                 235                 240
Thr Val Thr Pro Thr Tyr His Gln Asn Gln Gly Glu Asn Ile Ser Ser
                245                 250                 255
Leu Leu Arg Glu Leu Tyr Ala Lys Pro Leu Ser Glu Arg His Val Glu
            260                 265                 270
Ser Asp Gly Leu Ile Phe Asp Pro Ala Gln Ile Thr Ser Arg Thr Ala
        275                 280                 285
Arg Gly Val Ala Val Pro His Gly Asn His Tyr His Phe Ile Pro Tyr
    290                 295                 300
Glu Gln Met Ser Glu Leu Glu Lys Arg Ile Ala Arg Ile Ile Pro Leu
305                 310                 315                 320
Arg Tyr Arg Ser Asn His Trp Val Pro Asp Ser Arg Pro Glu Gln Pro
                325                 330                 335
Ser Pro Gln Ser Thr Pro Glu Pro Ser Pro Ser Pro Gln Pro Ala Pro
            340                 345                 350
Asn Pro Gln Pro Ala Pro Ser Asn Pro Ile Asp Glu Lys Leu Val Lys
        355                 360                 365
Glu Ala Val Arg Lys Val Gly Asp Gly Tyr Val Phe Glu Glu Asn Gly
    370                 375                 380
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Val Ser Arg Tyr Ile Pro Ala Lys Asp Leu Ser Ala Glu Thr Ala Ala
385                 390                 395                 400
Gly Ile Asp Ser Lys Leu Ala Lys Gln Glu Ser Leu Ser His Lys Leu
                405                 410                 415
Gly Ala Lys Lys Thr Asp Leu Pro Ser Ser Asp Arg Glu Phe Tyr Asn
            420                 425                 430
Lys Ala Tyr Asp Leu Leu Ala Arg Ile His Gln Asp Leu Leu Asp Asn
        435                 440                 445
Lys Gly Arg Gln Val Asp Phe Glu Ala Leu Asp Asn Leu Leu Glu Arg
    450                 455                 460
Leu Lys Asp Val Pro Ser Asp Lys Val Lys Leu Val Asp Asp Ile Leu
465                 470                 475                 480
Ala Phe Leu Ala Pro Ile Arg His Pro Glu Arg Leu Gly Lys Pro Asn
                485                 490                 495
Ala Gln Ile Thr Tyr Thr Asp Asp Glu Ile Gln Val Ala Lys Leu Ala
            500                 505                 510
Gly Lys Tyr Thr Thr Glu Asp Gly Tyr Ile Phe Asp Pro Arg Asp Ile
        515                 520                 525
Thr Ser Asp Glu Gly Asp Ala Tyr Val Thr Pro His Met Thr His Ser
    530                 535                 540
His Trp Ile Lys Lys Asp Ser Leu Ser Glu Ala Glu Arg Ala Ala Ala
545                 550                 555                 560
Gln Ala Tyr Ala Lys Glu Lys Gly Leu Thr Pro Pro Ser Thr Asp His
                565                 570                 575
Gln Asp Ser Gly Asn Thr Glu Ala Lys Gly Ala Glu Ala Ile Tyr Asn
            580                 585                 590
Arg Val Lys Ala Ala Lys Lys Val Pro Leu Asp Arg Met Pro Tyr Asn
        595                 600                 605
Leu Gln Tyr Thr Val Glu Val Lys Asn Gly Ser Leu Ile Ile Pro His
    610                 615                 620
Tyr Asp His Tyr His Asn Ile Lys Phe Glu Trp Phe Asp Glu Gly Leu
625                 630                 635                 640
Tyr Glu Ala Pro Lys Gly Tyr Thr Leu Glu Asp Leu Leu Ala Thr Val
                645                 650                 655
Lys Tyr Tyr Val Glu His Pro Asn Glu Arg Pro His Ser Asp Asn Gly
            660                 665                 670
Phe Gly Asn Ala Ser Asp His Val Arg Lys Asn Lys Val Asp Gln Asp
        675                 680                 685
Ser Lys Pro Asp Glu Asp Lys Glu His Asp Glu Val Ser Glu Pro Thr
    690                 695                 700
His Pro Glu Ser Asp Glu Lys Glu Asn His Ala Gly Leu Asn Pro Ser
705                 710                 715                 720
Ala Asp Asn Leu Tyr Lys Pro Ser Thr Asp Thr Glu Glu Thr Glu Glu
                725                 730                 735
Glu Ala Glu Asp Thr Thr Asp Glu Ala Glu Ile Pro Gln Val Glu Asn
            740                 745                 750
Ser Val Ile Asn Ala Lys Ile Ala Asp Ala Glu Ala Leu Leu Glu Lys
        755                 760                 765
Val Thr Asp Pro Ser Ile Arg Gln Asn Ala Met Glu Thr Leu Thr Gly
    770                 775                 780
Leu Lys Ser Ser Leu Leu Leu Gly Thr Lys Asp Asn Asn Thr Ile Ser
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Pro Ile
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<210> 2
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<212> PRT
<213> Artificial Sequence

<220>
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family histidine
triad motif

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<223> X is any amino acid other than his

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<211> 4
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<213> Unknown

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<210> 4
<211> 5
<212> PRT
<213> unknown

<220>
<223> S. pneumoniae surface protein Cell Wall Anchored
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<221> VARIANT
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Leu Pro Xaa Thr Gly
 1   5