

SEQUENCE LISTING

<110> Arne Forsgren et al

<120> A novel surface exposed haemophilus Influenzae protein (protein E; pE)

<130> 21030217

<160> 11

<170> PatentIn version 3.3

<210> 1

<211> 160

<212> PRT

<213> Haemophilus influenzae (pE)

<400> 1

Met Lys Lys Ile Ile Leu Thr Leu Ser Leu Gly Leu Leu Thr Ala Cys
1 5 10 15

Ser Ala Gln Ile Gln Lys Ala Lys Gln Asn Asp Val Lys Leu Ala Pro
20 25 30

Pro Thr Asp Val Arg Ser Gly Tyr Ile Arg Leu Val Lys Asn Val Asn
35 40 45

Tyr Tyr Ile Asp Ser Glu Ser Ile Trp Val Asp Asn Gln Glu Pro Gln
50 55 60

Ile Val His Phe Asp Ala Val Val Asn Leu Asp Arg Gly Leu Tyr Val
65 70 75 80

Tyr Pro Glu Pro Lys Arg Tyr Ala Arg Ser Val Arg Gln Tyr Lys Ile
85 90 95

Leu Asn Cys Ala Asn Tyr His Leu Thr Gln Ile Arg Thr Asp Phe Tyr
100 105 110

Asp Glu Phe Trp Gly Gln Gly Leu Arg Ala Ala Pro Lys Lys Gln Lys
115 120 125

Lys His Thr Leu Ser Leu Thr Pro Asp Thr Thr Leu Tyr Asn Ala Ala
130 135 140

Gln Ile Ile Cys Ala Asn Tyr Gly Glu Ala Phe Ser Val Asp Lys Lys
145 150 155 160

<210> 2

<211> 139

<212> PRT

<213> Protein fragment from Haemophilus influenzae or synthetic protein (pE(A))

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Lys Ala Lys Gln Asn Asp Val Lys Leu Ala Pro Pro Thr Asp Val Arg
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Ser Gly Tyr Ile Arg Leu Val Lys Asn Val Asn Tyr Tyr Ile Asp Ser
20 25 30

Glu Ser Ile Trp Val Asp Asn Gln Glu Pro Gln Ile Val His Phe Asp
35 40 45

Ala Val Val Asn Leu Asp Arg Gly Leu Tyr Val Tyr Pro Glu Pro Lys
50 55 60

Arg Tyr Ala Arg Ser Val Arg Gln Tyr Lys Ile Leu Asn Cys Ala Asn
65 70 75 80

Tyr His Leu Thr Gln Ile Arg Thr Asp Phe Tyr Asp Glu Phe Trp Gly
85 90 95

Gln Gly Leu Arg Ala Ala Pro Lys Lys Gln Lys Lys His Thr Leu Ser
100 105 110

Leu Thr Pro Asp Thr Thr Leu Tyr Asn Ala Ala Gln Ile Ile Cys Ala
115 120 125

Asn Tyr Gly Glu Ala Phe Ser Val Asp Lys Lys
130 135

<210> 3

<211> 28

<212> PRT

<213> Protein fragment from Haemophilus influenzae or synthetic peptide
(pE41-68)

<400> 3

Ile Arg Leu Val Lys Asn Val Asn Tyr Tyr Ile Asp Ser Glu Ser Ile
1 5 10 15

Trp Val Asp Asn Gln Glu Pro Gln Ile Val His Phe
20 25

<210> 4

<211> 39

<212> PRT

<213> Protein fragment from Haemophilus influenzae or synthetic peptide
(pE22-60)

<400> 4

Lys Ala Lys Gln Asn Asp Val Lys Leu Ala Pro Pro Thr Asp Val Arg
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Ser Gly Tyr Ile Arg Leu Val Lys Asn Val Asn Tyr Tyr Ile Asp Ser
20 25 30

Glu Ser Ile Trp Val Asp Asn
35

<210> 5
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 <213> Protein fragment from Haemophilus influenzae or synthetic peptide
 (pE22-95)

<400> 5

Lys Ala Lys Gln Asn Asp Val Lys Leu Ala Pro Pro Thr Asp Val Arg
 1 5 10 15

Ser Gly Tyr Ile Arg Leu Val Lys Asn Val Asn Tyr Tyr Ile Asp Ser
 20 25 30

Glu Ser Ile Trp Val Asp Asn Gln Glu Pro Gln Ile Val His Phe Asp
 35 40 45

Ala Val Val Asn Leu Asp Arg Gly Leu Tyr Val Tyr Pro Glu Pro Lys
 50 55 60

Arg Tyr Ala Arg Ser Val Arg Gln Tyr Lys
 65 70

<210> 6
 <211> 104
 <212> PRT
 <213> Protein fragment from Haemophilus influenzae or synthetic peptide
 (pE22-125)

<400> 6

Lys Ala Lys Gln Asn Asp Val Lys Leu Ala Pro Pro Thr Asp Val Arg
 1 5 10 15

Ser Gly Tyr Ile Arg Leu Val Lys Asn Val Asn Tyr Tyr Ile Asp Ser
 20 25 30

Glu Ser Ile Trp Val Asp Asn Gln Glu Pro Gln Ile Val His Phe Asp
 35 40 45

Ala Val Val Asn Leu Asp Arg Gly Leu Tyr Val Tyr Pro Glu Pro Lys
 50 55 60

Arg Tyr Ala Arg Ser Val Arg Gln Tyr Lys Ile Leu Asn Cys Ala Asn
 65 70 75 80

Tyr His Leu Thr Gln Ile Arg Thr Asp Phe Tyr Asp Glu Phe Trp Gly
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Gln Gly Leu Arg Ala Ala Pro Lys
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<212> PRT
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 (pE56-125)

<400> 7

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Val Asn Leu Asp Arg Gly Leu Tyr Val Tyr Pro Glu Pro Lys Arg Tyr
 20 25 30

Ala Arg Ser Val Arg Gln Tyr Lys Ile Leu Asn Cys Ala Asn Tyr His
 35 40 45

Leu Thr Gln Ile Arg Thr Asp Phe Tyr Asp Glu Phe Trp Gly Gln Gly
 50 55 60

Leu Arg Ala Ala Pro Lys
 65 70

<210> 8
 <211> 105
 <212> PRT
 <213> Protein fragment from Haemophilus influenzae or synthetic peptide
 (pE56-160)

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Ile Trp Val Asp Asn Gln Glu Pro Gln Ile Val His Phe Asp Ala Val
 1 5 10 15

Val Asn Leu Asp Arg Gly Leu Tyr Val Tyr Pro Glu Pro Lys Arg Tyr
 20 25 30

Ala Arg Ser Val Arg Gln Tyr Lys Ile Leu Asn Cys Ala Asn Tyr His
 35 40 45

Leu Thr Gln Ile Arg Thr Asp Phe Tyr Asp Glu Phe Trp Gly Gln Gly
 50 55 60

Leu Arg Ala Ala Pro Lys Lys Gln Lys Lys His Thr Leu Ser Leu Thr
 65 70 75 80

Pro Asp Thr Thr Leu Tyr Asn Ala Ala Gln Ile Ile Cys Ala Asn Tyr
 85 90 95

Gly Glu Ala Phe Ser Val Asp Lys Lys
 100 105

<210> 9
 <211> 75
 <212> PRT
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 (pE86-160)

<400> 9

Arg Tyr Ala Arg Ser Val Arg Gln Tyr Lys Ile Leu Asn Cys Ala Asn
1 5 10 15

Tyr His Leu Thr Gln Ile Arg Thr Asp Phe Tyr Asp Glu Phe Trp Gly
20 25 30

Gln Gly Leu Arg Ala Ala Pro Lys Lys Gln Lys Lys His Thr Leu Ser
35 40 45

Leu Thr Pro Asp Thr Thr Leu Tyr Asn Ala Ala Gln Ile Ile Cys Ala
50 55 60

Asn Tyr Gly Glu Ala Phe Ser Val Asp Lys Lys
65 70 75

<210> 10

<211> 46

<212> PRT

<213> Protein fragment from Haemophilus influenzae or synthetic peptide
(pE115-160)

<400> 10

Phe Trp Gly Gln Gly Leu Arg Ala Ala Pro Lys Lys Gln Lys Lys His
1 5 10 15

Thr Leu Ser Leu Thr Pro Asp Thr Thr Leu Tyr Asn Ala Ala Gln Ile
20 25 30

Ile Cys Ala Asn Tyr Gly Glu Ala Phe Ser Val Asp Lys Lys
35 40 45

<210> 11

<211> 483

<212> DNA

<213> Haemophilus influenzae

<400> 11

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caaaaggcta aacaaaatga tgtgaagctg gcaccgccga ctgatgtacg aagcggatat	120
atacgtttgg taaagaatgt gaattattac atcgatagtg aatcgatctg ggtggataac	180
caagagccac aaattgtaca ttttgatgca gtgggtgaatt tagatagggg attgtatggt	240
tatcctgagc ctaaacgtta tgcacgttct gttcgtcagt ataagatctt gaattgtgca	300
aattatcatt taactcaaat acgaactgat ttctatgatg aattttgggg acagggtttg	360
cgggcagcac ctaaaaagca aaagaacat acgttaagtt taacaccta tacaacgctt	420
tataatgctg ctcagattat ttgtgcgaac tatggtgaag cattttcagt tgataaaaaa	480
taa	483