

SEQUENCE LISTING

<110> Janssen Vaccines and Prevention B.V.

<120> Adenovirus and uses thereof

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<170> PatentIn version 3.5

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<212> PRT

<213> Artificial Sequence

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<223> BLY6 hexon HVRs

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Ala Ala Thr Gly Gly Ile Asp Ile Asp Lys Asn Gly Leu Gln Ile Gly
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Ile Asp Glu Thr Lys Glu Asp Asn Asn Glu Ile Tyr Ala Asp Lys Thr
35 40 45

Phe Gln Pro Glu Pro Gln Ile Gly Glu Glu Asn Trp Gln Asp Ser Glu
50 55 60

Asn Tyr Tyr Gly Gly Arg Ala Leu Lys Pro Glu Thr Lys Met Lys Pro
65 70 75 80

Cys Tyr Gly Ser Phe Ala Arg Pro Thr Asn Ala Lys Gly Gly Gln Ala
85 90 95

Lys Ile Lys Pro Ala Gln Glu Gly Gln Gln Ser Ile Asp Tyr Asp Ile
100 105 110

Asp Leu Ala Phe Phe Asp Ile Pro Ser Thr Gly Gly Gly Asn Gly Thr
115 120 125

Asn Val Asn Asp Lys Pro Asp Met Val Met Tyr Thr Glu Asn Val Asn

130 135 140

Leu Glu Thr Pro Asp Thr His Leu Val Tyr Lys Pro Gly Thr Ser Asp
145 150 155 160

Asp Ser Ser Glu Ala Asn Leu Thr Gln Gln Ala Met Ala Asn Arg Pro
165 170 175

Asn Tyr Ile Gly Phe Arg Asp Asn Phe Ile Gly Val Met Tyr Tyr Asn
180 185 190

Ser Thr Gly Asn Met Gly Val Leu Ala Gly Gln Ala Ser Gln Leu Asn
195 200 205

Ala Val Val Asp Leu Gln Asp Arg Asn Thr Glu Leu Ser Tyr Gln Leu
210 215 220

Leu Leu Asp Ser Leu Gly Asp Arg Thr Arg Tyr Phe Ser Met Trp Asn
225 230 235 240

Gln Ala Val Asp Ser Tyr Asp Pro Asp Val Arg Ile Ile Glu Asn His
245 250 255

Gly Val Glu Asp Glu Leu Pro Asn Tyr Cys Phe Pro Leu Asp Gly Ala
260 265 270

Gly Thr Asn Ala Val Tyr Gln Gly Val Lys Thr Lys Glu Asp Asn Asn
275 280 285

Gly Glu Trp Glu Thr Asp Thr Asn Val Ala Ser Gln
290 295 300

<210> 2

<211> 940

<212> PRT

<213> Artificial Sequence

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<223> BLY6 hexon

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Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala
20 25 30

Arg Ala Thr Asp Thr Tyr Phe Asn Leu Gly Asn Lys Phe Arg Asn Pro
35 40 45

Thr Val Ala Pro Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu
50 55 60

Thr Leu Arg Phe Val Pro Val Asp Arg Glu Asp Asn Thr Tyr Ser Tyr
65 70 75 80

Lys Val Arg Tyr Thr Leu Ala Val Gly Asp Asn Arg Val Leu Asp Met
85 90 95

Ala Ser Thr Tyr Phe Asp Ile Arg Gly Val Leu Asp Arg Gly Pro Ser
100 105 110

Phe Lys Pro Tyr Ser Gly Thr Ala Tyr Asn Ser Leu Ala Pro Lys Gly
115 120 125

Ala Pro Asn Ser Ser Gln Trp Gln Gln Lys Glu Asn Asn Gly Gln Gly
130 135 140

Asp Ala Lys Thr His Thr Tyr Gly Val Ala Ala Thr Gly Gly Ile Asp
145 150 155 160

Ile Asp Lys Asn Gly Leu Gln Ile Gly Ile Asp Glu Thr Lys Glu Asp
165 170 175

Asn Asn Glu Ile Tyr Ala Asp Lys Thr Phe Gln Pro Glu Pro Gln Ile
180 185 190

Gly Glu Glu Asn Trp Gln Asp Ser Glu Asn Tyr Tyr Gly Gly Arg Ala
195 200 205

Leu Lys Pro Glu Thr Lys Met Lys Pro Cys Tyr Gly Ser Phe Ala Arg
210 215 220

Pro Thr Asn Ala Lys Gly Gly Gln Ala Lys Ile Lys Pro Ala Gln Glu

225 230 235 240

Gly Gln Gln Ser Ile Asp Tyr Asp Ile Asp Leu Ala Phe Phe Asp Ile
 245 250 255

Pro Ser Thr Gly Gly Gly Asn Gly Thr Asn Val Asn Asp Lys Pro Asp
 260 265 270

Met Val Met Tyr Thr Glu Asn Val Asn Leu Glu Thr Pro Asp Thr His
 275 280 285

Leu Val Tyr Lys Pro Gly Thr Ser Asp Asp Ser Ser Glu Ala Asn Leu
 290 295 300

Thr Gln Gln Ala Met Ala Asn Arg Pro Asn Tyr Ile Gly Phe Arg Asp
305 310 315 320

Asn Phe Ile Gly Val Met Tyr Tyr Asn Ser Thr Gly Asn Met Gly Val
 325 330 335

Leu Ala Gly Gln Ala Ser Gln Leu Asn Ala Val Val Asp Leu Gln Asp
 340 345 350

Arg Asn Thr Glu Leu Ser Tyr Gln Leu Leu Leu Asp Ser Leu Gly Asp
 355 360 365

Arg Thr Arg Tyr Phe Ser Met Trp Asn Gln Ala Val Asp Ser Tyr Asp
 370 375 380

Pro Asp Val Arg Ile Ile Glu Asn His Gly Val Glu Asp Glu Leu Pro
385 390 395 400

Asn Tyr Cys Phe Pro Leu Asp Gly Ala Gly Thr Asn Ala Val Tyr Gln
 405 410 415

Gly Val Lys Thr Lys Glu Asp Asn Asn Gly Glu Trp Glu Thr Asp Thr
 420 425 430

Asn Val Ala Ser Gln Asn Gln Ile Cys Lys Gly Asn Ile Tyr Ala Met
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Glu Ile Asn Leu Gln Ala Asn Leu Trp Lys Ser Phe Leu Tyr Ser Asn
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Val Ala Leu Tyr Leu Pro Asp Ser Tyr Lys Tyr Thr Pro Ser Asn Val
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Thr Leu Pro Thr Asn Thr Asn Thr Tyr Asp Tyr Met Asn Gly Arg Val
485 490 495

Val Ser Pro Ser Leu Val Asp Ala Tyr Ile Asn Ile Gly Ala Arg Trp
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Ser Leu Asp Ala Met Asp Asn Val Asn Pro Phe Asn His His Arg Asn
515 520 525

Ala Gly Leu Arg Tyr Arg Ser Met Leu Leu Gly Asn Gly Arg Tyr Val
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Pro Phe His Ile Gln Val Pro Gln Lys Phe Phe Ala Ile Lys Asn Leu
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Leu Leu Leu Pro Gly Ser Tyr Thr Tyr Glu Trp Asn Phe Arg Lys Asp
565 570 575

Val Asn Met Ile Leu Gln Ser Ser Leu Gly Asn Asp Leu Arg Thr Asp
580 585 590

Gly Ala Thr Ile Gln Tyr Thr Ser Ile Asn Leu Tyr Ala Thr Phe Phe
595 600 605

Pro Met Ala His Asn Thr Ala Ser Thr Leu Glu Ala Met Leu Arg Asn
610 615 620

Asp Thr Asn Asp Gln Ser Phe Asn Asp Tyr Leu Ser Ala Ala Asn Met
625 630 635 640

Leu Tyr Pro Ile Pro Ala Asn Ala Thr Asn Val Pro Ile Ser Ile Pro
645 650 655

Ser Arg Asn Trp Ala Ala Phe Arg Gly Trp Ser Phe Thr Arg Leu Lys
660 665 670

Thr Lys Glu Thr Pro Ser Leu Gly Ser Gly Phe Asp Pro Tyr Phe Val
675 680 685

Tyr Ser Gly Ser Ile Pro Tyr Leu Asp Gly Thr Phe Tyr Leu Asn His
690 695 700

Thr Phe Lys Lys Val Ser Ile Met Phe Asp Ser Ser Val Ser Trp Pro
705 710 715 720

Gly Asn Asp Arg Leu Leu Thr Pro Asn Glu Phe Glu Ile Lys Arg Thr
725 730 735

Val Asp Gly Glu Gly Tyr Asn Val Ala Gln Cys Asn Met Thr Lys Asp
740 745 750

Trp Phe Leu Val Gln Met Leu Ser His Tyr Asn Ile Gly Tyr Gln Gly
755 760 765

Phe Tyr Ile Pro Glu Gly Tyr Lys Asp Arg Met Tyr Ser Phe Phe Arg
770 775 780

Asn Phe Gln Pro Met Ser Arg Gln Val Val Asp Gln Val Asn Tyr Lys
785 790 795 800

Asp Tyr Met Ala Val Thr Leu Ala Tyr Gln His Asn Asn Ser Gly Phe
805 810 815

Val Gly Tyr Leu Ala Pro Thr Met Arg Gln Gly Gln Pro Tyr Pro Ala
820 825 830

Asn Tyr Pro Tyr Pro Leu Ile Gly Lys Thr Ala Val Asn Ser Val Thr
835 840 845

Gln Lys Lys Phe Leu Cys Asp Arg Val Met Trp Arg Ile Pro Phe Ser
850 855 860

Ser Asn Phe Met Ser Met Gly Ala Leu Thr Asp Leu Gly Gln Asn Met
865 870 875 880

Leu Tyr Ala Asn Ser Ala His Ala Leu Asp Met Asn Phe Glu Val Asp
885 890 895

Pro Met Asp Glu Ser Thr Leu Leu Tyr Val Val Phe Glu Val Phe Asp
900 905 910

Val Val Arg Val His Gln Pro His Arg Gly Val Ile Glu Ala Val Tyr
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Leu Arg Thr Pro Phe Ser Ala Gly Asn Ala Thr Thr
930 935 940

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<212> PRT

<213> Artificial Sequence

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<223> BLY6 fiber

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Pro Tyr Asp Ala Glu Leu Ala Pro Ser Val Pro Phe Ile Ala Pro Pro
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Phe Val Ser Ser Asp Gly Phe Gln Glu Lys Pro Leu Gly Val Leu Ser
35 40 45

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

Lys Leu Gly Asp Gly Val Gly Ile Asp Ser Asp Gly Asn Leu Thr Ala
65 70 75 80

Gln Thr Val Thr Lys Ala Thr Ser Pro Leu Thr Val Ser Asn Asn Ala
85 90 95

Ile Ala Leu Asn Met Asp Lys Pro Phe Tyr Ser Ser Asn Gly Lys Leu
100 105 110

Ser Leu Gln Val Thr Ser Pro Leu Lys Ile Val Asp Ser Leu Asn Thr
115 120 125

Leu Ala Ile Gly Tyr Gly Gln Gly Leu Gly Leu Asn Asn Ser Ala Leu
130 135 140

Ala Val Gln Leu Ala Ser Pro Leu Thr Phe Asp Ser Asn Ser Lys Ile
145 150 155 160

Lys Ile Asn Leu Gly Ser Gly Pro Leu Lys Ile Asn Ala Asn Lys Leu
165 170 175

Ser Ile Asn Cys Leu Arg Gly Val Tyr Val Thr Thr Asp Gly Thr Ser
180 185 190

Ile Glu Thr Asn Ile Ser Trp Ala Lys Gly Met Arg Phe Glu Gly Asn
195 200 205

Ala Met Ala Val Asn Val Asp Ser Thr Lys Gly Leu Gln Phe Gly Thr
210 215 220

Thr Ser Thr Glu Ser Gly Val Thr Asn Ala Phe Pro Ile Gln Leu Lys
225 230 235 240

Ile Gly Ser Gly Leu Ser Phe Asp Ser Thr Gly Ala Leu Val Ala Trp
245 250 255

Asp Lys Asp Asn Asp Lys Leu Thr Leu Trp Thr Thr Ala Asp Pro Ser
260 265 270

Pro Asn Cys Thr Ile Tyr Thr Asp Lys Asp Ala Lys Leu Thr Leu Cys
275 280 285

Leu Thr Lys Cys Gly Ser Gln Ile Leu Gly Ser Val Ser Val Leu Ala
290 295 300

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

Leu Val Ser Leu Lys Phe Asn Asn Asn Gly Val Leu Leu Ser Asn Ser
325 330 335

Thr Leu Ser Asn Glu Tyr Trp Asn Tyr Arg Lys Gly Asp Val Thr Pro
340 345 350

Ala Glu Ala Tyr Thr Asn Ala Val Gly Phe Met Pro Asn Ile Lys Ala
355 360 365

Tyr Pro Lys Asn Thr Asn Ser Ala Ser Lys Ser His Ile Val Gly Gln
370 375 380

Val Tyr Leu Asn Gly Asp Glu Thr Lys Pro Met His Leu Ile Ile Thr
385 390 395 400

Phe Asn Glu Thr Ser Asp Glu Thr Cys Thr Tyr Ser Ile Thr Phe Gln
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Trp Lys Trp Asn Ile Gly Thr Tyr Thr Ser Asp Thr Leu Ala Thr Ser
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Ser Phe Thr Phe Ser Tyr Ile Ala Gln Glu
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<210> 4

<211> 938

<212> PRT

<213> Artificial Sequence

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<223> SAdV-30-1 hexon

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Arg Ala Thr Asp Thr Tyr Phe Ser Leu Gly Asn Lys Phe Arg Asn Pro
35 40 45

Thr Val Ala Pro Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu
50 55 60

Thr Leu Arg Phe Val Pro Val Asp Arg Glu Asp Asn Thr Tyr Ser Tyr
65 70 75 80

Lys Val Arg Tyr Thr Leu Ala Val Gly Asp Asn Arg Val Leu Asp Met
85 90 95

Ala Ser Thr Tyr Phe Asp Ile Arg Gly Val Leu Asp Arg Gly Pro Ser
100 105 110

Phe Lys Pro Tyr Ser Gly Thr Ala Tyr Asn Ser Leu Ala Pro Lys Gly
115 120 125

Ala Pro Asn Ser Ser Gln Trp Glu Gln Asn Glu Asn Asn Gly Gln Gly
130 135 140

Gln Ala Lys Thr His Thr Tyr Gly Val Ala Ala Met Gly Gly Leu Asp
145 150 155 160

Ile Thr Lys Glu Gly Leu Gln Ile Gly Thr Asp Ala Ser Lys Glu Asp
165 170 175

Asp Asn Glu Ile Tyr Ala Asp Glu Thr Tyr Gln Pro Glu Pro Gln Ile
180 185 190

Gly Glu Glu Asn Trp Gln Asp Thr Glu Asn Phe Tyr Gly Gly Arg Ala
195 200 205

Leu Lys Lys Asp Thr Lys Met Lys Pro Cys Tyr Gly Ser Phe Ala Arg
210 215 220

Pro Thr Asn Val Lys Gly Gly Gln Ala Lys Val Lys Thr Glu Glu Asn
225 230 235 240

Val Gln Ser Phe Asp Ile Asp Leu Ala Phe Phe Asp Ile Pro Ser Thr
245 250 255

Gly Thr Gly Ser Asn Gly Thr Asn Val Asn Asp Lys Pro Asp Met Val
260 265 270

Met Tyr Thr Glu Asn Val Asn Leu Glu Thr Pro Asp Thr His Ile Val
275 280 285

Tyr Lys Pro Gly Thr Ser Asp Asp Ser Ser Glu Ala Asn Leu Cys Gln
290 295 300

Gln Ala Met Pro Asn Arg Pro Asn Tyr Ile Gly Phe Arg Asp Asn Phe
305 310 315 320

Ile Gly Leu Met Tyr Tyr Asn Ser Thr Gly Asn Met Gly Val Leu Ala
 325 330 335

Gly Gln Ala Ser Gln Leu Asn Ala Val Val Asp Leu Gln Asp Arg Asn
 340 345 350

Thr Glu Leu Ser Tyr Gln Leu Leu Leu Asp Ser Leu Gly Asp Arg Thr
 355 360 365

Arg Tyr Phe Ser Met Trp Asn Gln Ala Val Asp Ser Tyr Asp Pro Asp
 370 375 380

Val Arg Ile Ile Glu Asn His Gly Val Glu Asp Glu Leu Pro Asn Tyr
385 390 395 400

Cys Phe Pro Leu Asp Gly Ala Gly Thr Asn Ala Val Tyr Gln Gly Val
 405 410 415

Lys Glu Lys Thr Gly Asn Asn Gly Glu Trp Glu Ala Asp Thr Asn Val
 420 425 430

Ala Ser Gln Asn Gln Ile Cys Lys Gly Asn Ile Tyr Ala Met Glu Ile
 435 440 445

Asn Leu Gln Ala Asn Leu Trp Arg Ser Phe Leu Tyr Ser Asn Val Ala
 450 455 460

Leu Tyr Leu Pro Asp Ser Tyr Lys Tyr Thr Pro Ala Asn Ile Thr Leu
465 470 475 480

Pro Thr Asn Thr Asn Thr Tyr Asp Tyr Met Asn Gly Arg Val Val Pro
 485 490 495

Pro Ser Leu Val Asp Ala Tyr Ile Asn Ile Gly Ala Arg Trp Ser Leu
 500 505 510

Asp Pro Met Asp Asn Val Asn Pro Phe Asn His His Arg Asn Ala Gly

515 520 525

Leu Arg Tyr Arg Ser Met Leu Leu Gly Asn Gly Arg Tyr Val Pro Phe
530 535 540

His Ile Gln Val Pro Gln Lys Phe Phe Ala Ile Lys Ser Leu Leu Leu
545 550 555 560

Leu Pro Gly Ser Tyr Thr Tyr Glu Trp Asn Phe Arg Lys Asp Val Asn
565 570 575

Met Ile Leu Gln Ser Ser Leu Gly Asn Asp Leu Arg Thr Asp Gly Ala
580 585 590

Ser Ile Ser Phe Thr Ser Ile Asn Leu Tyr Ala Thr Phe Phe Pro Met
595 600 605

Ala His Asn Thr Ala Ser Thr Leu Glu Ala Met Leu Arg Asn Asp Thr
610 615 620

Asn Asp Gln Ser Phe Asn Asp Tyr Leu Ser Ala Ala Asn Met Leu Tyr
625 630 635 640

Pro Ile Pro Ala Asn Ala Thr Asn Val Pro Ile Ser Ile Pro Ser Arg
645 650 655

Asn Trp Ala Ala Phe Arg Gly Trp Ser Phe Thr Arg Leu Lys Thr Lys
660 665 670

Glu Thr Pro Ser Leu Gly Ser Gly Phe Asp Pro Tyr Phe Val Tyr Ser
675 680 685

Gly Ser Ile Pro Tyr Leu Asp Gly Thr Phe Tyr Leu Asn His Thr Phe
690 695 700

Lys Lys Val Ser Ile Thr Phe Asp Ser Ser Val Ser Trp Pro Gly Asn
705 710 715 720

Asp Arg Leu Leu Thr Pro Asn Glu Phe Glu Ile Lys Arg Thr Val Asp
725 730 735

Gly Glu Gly Tyr Asn Val Ala Gln Cys Asn Met Thr Lys Asp Trp Phe
740 745 750

Leu Val Gln Met Leu Ala His Tyr Asn Ile Gly Tyr Gln Gly Phe Tyr
755 760 765

Val Pro Glu Gly Tyr Lys Asp Arg Met Tyr Ser Phe Phe Arg Asn Phe
770 775 780

Gln Pro Met Ser Arg Gln Val Val Asp Glu Val Asn Tyr Lys Asp Tyr
785 790 795 800

Gln Ala Val Thr Leu Ala Tyr Gln His Asn Asn Ser Gly Phe Val Gly
805 810 815

Tyr Leu Ala Pro Thr Met Arg Gln Gly Gln Pro Tyr Pro Ala Asn Tyr
820 825 830

Pro Tyr Pro Leu Ile Gly Lys Ser Ala Val Thr Ser Val Thr Gln Lys
835 840 845

Lys Phe Leu Cys Asp Arg Val Met Trp Arg Ile Pro Phe Ser Ser Asn
850 855 860

Phe Met Ser Met Gly Ala Leu Thr Asp Leu Gly Gln Asn Met Leu Tyr
865 870 875 880

Ala Asn Ser Ala His Ala Leu Asp Met Asn Phe Glu Val Asp Pro Met
885 890 895

Asp Glu Ser Thr Leu Leu Tyr Val Val Phe Glu Val Phe Asp Val Val
900 905 910

Arg Val His Gln Pro His Arg Gly Val Ile Glu Ala Val Tyr Leu Arg
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Thr Pro Phe Ser Ala Gly Asn Ala Thr Thr
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<212> DNA

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