SEQUENCE LISTING

<110> 3B Pharmaceuticals GmbH

<120> Compounds comprising a fibroblast activation protein ligand and use thereof

<130> D 10026 PCT

<150> EP 19 000 325.1
<151> 2019-07-08

<150> EP 19 198 813.8
<151> 2019-09-20

<160> 3

<170> PatentIn version 3.5

<210> 1
<211> 760
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<223> Fibroblast activation protein (FAP)

<400> 1

Met Lys Thr Trp Val Lys Ile Val Phe Gly Val Ala Thr Ser Ala Val
1 5 10 15

Leu Ala Leu Leu Val Met Cys Ile Val Leu Arg Pro Ser Arg Val His
20 25 30

Asn Ser Glu Glu Asn Thr Met Arg Ala Leu Thr Leu Lys Asp Ile Leu
35 40 45

Asn Gly Thr Phe Ser Tyr Lys Thr Phe Phe Pro Asn Trp Ile Ser Gly
50 55 60

Gln Glu Tyr Leu His Gln Ser Ala Asp Asn Asn Ile Val Leu Tyr Asn
65 70 75 80

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Ile Glu Thr Gly Gln Ser Tyr Thr Ile Leu Ser Asn Arg Thr Met Lys
                85                  90                  95

Ser Val Asn Ala Ser Asn Tyr Gly Leu Ser Pro Asp Arg Gln Phe Val
            100                 105                 110

Tyr Leu Glu Ser Asp Tyr Ser Lys Leu Trp Arg Tyr Ser Tyr Thr Ala
        115                 120                 125

Thr Tyr Tyr Ile Tyr Asp Leu Ser Asn Gly Glu Phe Val Arg Gly Asn
    130                 135                 140

Glu Leu Pro Arg Pro Ile Gln Tyr Leu Cys Trp Ser Pro Val Gly Ser
145                 150                 155                 160

Lys Leu Ala Tyr Val Tyr Gln Asn Asn Ile Tyr Leu Lys Gln Arg Pro
                165                 170                 175

Gly Asp Pro Pro Phe Gln Ile Thr Phe Asn Gly Arg Glu Asn Lys Ile
            180                 185                 190

Phe Asn Gly Ile Pro Asp Trp Val Tyr Glu Glu Glu Met Leu Ala Thr
        195                 200                 205

Lys Tyr Ala Leu Trp Trp Ser Pro Asn Gly Lys Phe Leu Ala Tyr Ala
    210                 215                 220

Glu Phe Asn Asp Thr Asp Ile Pro Val Ile Ala Tyr Ser Tyr Tyr Gly
225                 230                 235                 240

Asp Glu Gln Tyr Pro Arg Thr Ile Asn Ile Pro Tyr Pro Lys Ala Gly
                245                 250                 255

Ala Lys Asn Pro Val Val Arg Ile Phe Ile Ile Asp Thr Thr Tyr Pro
            260                 265                 270
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Ala Tyr Val Gly Pro Gln Glu Val Pro Val Pro Ala Met Ile Ala Ser
        275                 280                 285

Ser Asp Tyr Tyr Phe Ser Trp Leu Thr Trp Val Thr Asp Glu Arg Val
    290                 295                 300

Cys Leu Gln Trp Leu Lys Arg Val Gln Asn Val Ser Val Leu Ser Ile
305                 310                 315                 320

Cys Asp Phe Arg Glu Asp Trp Gln Thr Trp Asp Cys Pro Lys Thr Gln
                325                 330                 335

Glu His Ile Glu Glu Ser Arg Thr Gly Trp Ala Gly Gly Phe Phe Val
            340                 345                 350

Ser Thr Pro Val Phe Ser Tyr Asp Ala Ile Ser Tyr Tyr Lys Ile Phe
        355                 360                 365

Ser Asp Lys Asp Gly Tyr Lys His Ile His Tyr Ile Lys Asp Thr Val
    370                 375                 380

Glu Asn Ala Ile Gln Ile Thr Ser Gly Lys Trp Glu Ala Ile Asn Ile
385                 390                 395                 400

Phe Arg Val Thr Gln Asp Ser Leu Phe Tyr Ser Ser Asn Glu Phe Glu
                405                 410                 415

Glu Tyr Pro Gly Arg Arg Asn Ile Tyr Arg Ile Ser Ile Gly Ser Tyr
            420                 425                 430

Pro Pro Ser Lys Lys Cys Val Thr Cys His Leu Arg Lys Glu Arg Cys
        435                 440                 445

Gln Tyr Tyr Thr Ala Ser Phe Ser Asp Tyr Ala Lys Tyr Tyr Ala Leu
    450                 455                 460
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Val Cys Tyr Gly Pro Gly Ile Pro Ile Ser Thr Leu His Asp Gly Arg
465                 470                 475                 480


Thr Asp Gln Glu Ile Lys Ile Leu Glu Glu Asn Lys Glu Leu Glu Asn
                485                 490                 495


Ala Leu Lys Asn Ile Gln Leu Pro Lys Glu Glu Ile Lys Lys Leu Glu
            500                 505                 510


Val Asp Glu Ile Thr Leu Trp Tyr Lys Met Ile Leu Pro Pro Gln Phe
        515                 520                 525


Asp Arg Ser Lys Lys Tyr Pro Leu Leu Ile Gln Val Tyr Gly Gly Pro
    530                 535                 540


Cys Ser Gln Ser Val Arg Ser Val Phe Ala Val Asn Trp Ile Ser Tyr
545                 550                 555                 560


Leu Ala Ser Lys Glu Gly Met Val Ile Ala Leu Val Asp Gly Arg Gly
                565                 570                 575


Thr Ala Phe Gln Gly Asp Lys Leu Leu Tyr Ala Val Tyr Arg Lys Leu
            580                 585                 590


Gly Val Tyr Glu Val Glu Asp Gln Ile Thr Ala Val Arg Lys Phe Ile
        595                 600                 605


Glu Met Gly Phe Ile Asp Glu Lys Arg Ile Ala Ile Trp Gly Trp Ser
    610                 615                 620


Tyr Gly Gly Tyr Val Ser Ser Leu Ala Leu Ala Ser Gly Thr Gly Leu
625                 630                 635                 640


Phe Lys Cys Gly Ile Ala Val Ala Pro Val Ser Ser Trp Glu Tyr Tyr
                645                 650                 655


Ala Ser Val Tyr Thr Glu Arg Phe Met Gly Leu Pro Thr Lys Asp Asp
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660 665 670

Asn Leu Glu His Tyr Lys Asn Ser Thr Val Met Ala Arg Ala Glu Tyr
675 680 685

Phe Arg Asn Val Asp Tyr Leu Leu Ile His Gly Thr Ala Asp Asp Asn
690 695 700

Val His Phe Gln Asn Ser Ala Gln Ile Ala Lys Ala Leu Val Asn Ala
705 710 715 720

Gln Val Asp Phe Gln Ala Met Trp Tyr Ser Asp Gln Asn His Gly Leu
725 730 735

Ser Gly Leu Ser Thr Asn His Leu Tyr Thr His Met Thr His Phe Leu
740 745 750

Lys Gln Cys Phe Ser Leu Ser Asp
755 760

<210> 2
<211> 766
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<223> Dipeptidyl peptidase 4 (DPP4)

<400> 2

Met Lys Thr Pro Trp Lys Val Leu Leu Gly Leu Leu Gly Ala Ala Ala
1 5 10 15

Leu Val Thr Ile Ile Thr Val Pro Val Val Leu Leu Asn Lys Gly Thr
20 25 30

Asp Asp Ala Thr Ala Asp Ser Arg Lys Thr Tyr Thr Leu Thr Asp Tyr
35 40 45

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Leu Lys Asn Thr Tyr Arg Leu Lys Leu Tyr Ser Leu Arg Trp Ile Ser
    50                  55                  60

Asp His Glu Tyr Leu Tyr Lys Gln Glu Asn Asn Ile Leu Val Phe Asn
65                  70                  75                  80

Ala Glu Tyr Gly Asn Ser Ser Val Phe Leu Glu Asn Ser Thr Phe Asp
                85                  90                  95

Glu Phe Gly His Ser Ile Asn Asp Tyr Ser Ile Ser Pro Asp Gly Gln
            100                 105                 110

Phe Ile Leu Leu Glu Tyr Asn Tyr Val Lys Gln Trp Arg His Ser Tyr
        115                 120                 125

Thr Ala Ser Tyr Asp Ile Tyr Asp Leu Asn Lys Arg Gln Leu Ile Thr
    130                 135                 140

Glu Glu Arg Ile Pro Asn Asn Thr Gln Trp Val Thr Trp Ser Pro Val
145                 150                 155                 160

Gly His Lys Leu Ala Tyr Val Trp Asn Asn Asp Ile Tyr Val Lys Ile
                165                 170                 175

Glu Pro Asn Leu Pro Ser Tyr Arg Ile Thr Trp Thr Gly Lys Glu Asp
            180                 185                 190

Ile Ile Tyr Asn Gly Ile Thr Asp Trp Val Tyr Glu Glu Glu Val Phe
        195                 200                 205

Ser Ala Tyr Ser Ala Leu Trp Trp Ser Pro Asn Gly Thr Phe Leu Ala
    210                 215                 220

Tyr Ala Gln Phe Asn Asp Thr Glu Val Pro Leu Ile Glu Tyr Ser Phe
225                 230                 235                 240
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```
Tyr Ser Asp Glu Ser Leu Gln Tyr Pro Lys Thr Val Arg Val Pro Tyr
                245                 250                 255

Pro Lys Ala Gly Ala Val Asn Pro Thr Val Lys Phe Phe Val Val Asn
            260                 265                 270

Thr Asp Ser Leu Ser Ser Val Thr Asn Ala Thr Ser Ile Gln Ile Thr
        275                 280                 285

Ala Pro Ala Ser Met Leu Ile Gly Asp His Tyr Leu Cys Asp Val Thr
    290                 295                 300

Trp Ala Thr Gln Glu Arg Ile Ser Leu Gln Trp Leu Arg Arg Ile Gln
305                 310                 315                 320

Asn Tyr Ser Val Met Asp Ile Cys Asp Tyr Asp Glu Ser Ser Gly Arg
                325                 330                 335

Trp Asn Cys Leu Val Ala Arg Gln His Ile Glu Met Ser Thr Thr Gly
            340                 345                 350

Trp Val Gly Arg Phe Arg Pro Ser Glu Pro His Phe Thr Leu Asp Gly
        355                 360                 365

Asn Ser Phe Tyr Lys Ile Ile Ser Asn Glu Glu Gly Tyr Arg His Ile
    370                 375                 380

Cys Tyr Phe Gln Ile Asp Lys Lys Asp Cys Thr Phe Ile Thr Lys Gly
385                 390                 395                 400

Thr Trp Glu Val Ile Gly Ile Glu Ala Leu Thr Ser Asp Tyr Leu Tyr
                405                 410                 415

Tyr Ile Ser Asn Glu Tyr Lys Gly Met Pro Gly Gly Arg Asn Leu Tyr
            420                 425                 430
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Lys Ile Gln Leu Ser Asp Tyr Thr Lys Val Thr Cys Leu Ser Cys Glu
        435                 440                 445

Leu Asn Pro Glu Arg Cys Gln Tyr Tyr Ser Val Ser Phe Ser Lys Glu
    450                 455                 460

Ala Lys Tyr Tyr Gln Leu Arg Cys Ser Gly Pro Gly Leu Pro Leu Tyr
465                 470                 475                 480

Thr Leu His Ser Ser Val Asn Asp Lys Gly Leu Arg Val Leu Glu Asp
                485                 490                 495

Asn Ser Ala Leu Asp Lys Met Leu Gln Asn Val Gln Met Pro Ser Lys
            500                 505                 510

Lys Leu Asp Phe Ile Ile Leu Asn Glu Thr Lys Phe Trp Tyr Gln Met
        515                 520                 525

Ile Leu Pro Pro His Phe Asp Lys Ser Lys Lys Tyr Pro Leu Leu Leu
    530                 535                 540

Asp Val Tyr Ala Gly Pro Cys Ser Gln Lys Ala Asp Thr Val Phe Arg
545                 550                 555                 560

Leu Asn Trp Ala Thr Tyr Leu Ala Ser Thr Glu Asn Ile Ile Val Ala
                565                 570                 575

Ser Phe Asp Gly Arg Gly Ser Gly Tyr Gln Gly Asp Lys Ile Met His
            580                 585                 590

Ala Ile Asn Arg Arg Leu Gly Thr Phe Glu Val Glu Asp Gln Ile Glu
        595                 600                 605

Ala Ala Arg Gln Phe Ser Lys Met Gly Phe Val Asp Asn Lys Arg Ile
    610                 615                 620

Ala Ile Trp Gly Trp Ser Tyr Gly Gly Tyr Val Thr Ser Met Val Leu
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625 630 635 640

Gly Ser Gly Ser Gly Val Phe Lys Cys Gly Ile Ala Val Ala Pro Val
645 650 655

Ser Arg Trp Glu Tyr Tyr Asp Ser Val Tyr Thr Glu Arg Tyr Met Gly
660 665 670

Leu Pro Thr Pro Glu Asp Asn Leu Asp His Tyr Arg Asn Ser Thr Val
675 680 685

Met Ser Arg Ala Glu Asn Phe Lys Gln Val Glu Tyr Leu Leu Ile His
690 695 700

Gly Thr Ala Asp Asp Asn Val His Phe Gln Gln Ser Ala Gln Ile Ser
705 710 715 720

Lys Ala Leu Val Asp Val Gly Val Asp Phe Gln Ala Met Trp Tyr Thr
725 730 735

Asp Glu Asp His Gly Ile Ala Ser Ser Thr Ala His Gln His Ile Tyr
740 745 750

Thr His Met Ser His Phe Ile Lys Gln Cys Phe Ser Leu Pro
755 760 765

<210> 3
<211> 710
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<223> Prolyl endopeptidase (PREP)

<400> 3

Met Leu Ser Leu Gln Tyr Pro Asp Val Tyr Arg Asp Glu Thr Ala Val
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Gln Asp Tyr His Gly His Lys Ile Cys Asp Pro Tyr Ala Trp Leu Glu
            20                  25                  30

Asp Pro Asp Ser Glu Gln Thr Lys Ala Phe Val Glu Ala Gln Asn Lys
        35                  40                  45

Ile Thr Val Pro Phe Leu Glu Gln Cys Pro Ile Arg Gly Leu Tyr Lys
    50                  55                  60

Glu Arg Met Thr Glu Leu Tyr Asp Tyr Pro Lys Tyr Ser Cys His Phe
65                  70                  75                  80

Lys Lys Gly Lys Arg Tyr Phe Tyr Phe Tyr Asn Thr Gly Leu Gln Asn
                85                  90                  95

Gln Arg Val Leu Tyr Val Gln Asp Ser Leu Glu Gly Glu Ala Arg Val
            100                 105                 110

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

Gly Tyr Ala Phe Ser Glu Asp Gly Glu Tyr Phe Ala Tyr Gly Leu Ser
    130                 135                 140

Ala Ser Gly Ser Asp Trp Val Thr Ile Lys Phe Met Lys Val Asp Gly
145                 150                 155                 160

Ala Lys Glu Leu Pro Asp Val Leu Glu Arg Val Lys Phe Ser Cys Met
                165                 170                 175

Ala Trp Thr His Asp Gly Lys Gly Met Phe Tyr Asn Ser Tyr Pro Gln
            180                 185                 190

Gln Asp Gly Lys Ser Asp Gly Thr Glu Thr Ser Thr Asn Leu His Gln
        195                 200                 205
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Lys Leu Tyr Tyr His Val Leu Gly Thr Asp Gln Ser Glu Asp Ile Leu
    210                 215                 220

Cys Ala Glu Phe Pro Asp Glu Pro Lys Trp Met Gly Gly Ala Glu Leu
225                 230                 235                 240

Ser Asp Asp Gly Arg Tyr Val Leu Leu Ser Ile Arg Glu Gly Cys Asp
                245                 250                 255

Pro Val Asn Arg Leu Trp Tyr Cys Asp Leu Gln Gln Glu Ser Ser Gly
            260                 265                 270

Ile Ala Gly Ile Leu Lys Trp Val Lys Leu Ile Asp Asn Phe Glu Gly
        275                 280                 285

Glu Tyr Asp Tyr Val Thr Asn Glu Gly Thr Val Phe Thr Phe Lys Thr
    290                 295                 300

Asn Arg Gln Ser Pro Asn Tyr Arg Val Ile Asn Ile Asp Phe Arg Asp
305                 310                 315                 320

Pro Glu Glu Ser Lys Trp Lys Val Leu Val Pro Glu His Glu Lys Asp
                325                 330                 335

Val Leu Glu Trp Ile Ala Cys Val Arg Ser Asn Phe Leu Val Leu Cys
            340                 345                 350

Tyr Leu His Asp Val Lys Asn Ile Leu Gln Leu His Asp Leu Thr Thr
        355                 360                 365

Gly Ala Leu Leu Lys Thr Phe Pro Leu Asp Val Gly Ser Ile Val Gly
    370                 375                 380

Tyr Ser Gly Gln Lys Lys Asp Thr Glu Ile Phe Tyr Gln Phe Thr Ser
385                 390                 395                 400
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```
Phe Leu Ser Pro Gly Ile Ile Tyr His Cys Asp Leu Thr Lys Glu Glu
                405                 410                 415

Leu Glu Pro Arg Val Phe Arg Glu Val Thr Val Lys Gly Ile Asp Ala
            420                 425                 430

Ser Asp Tyr Gln Thr Val Gln Ile Phe Tyr Pro Ser Lys Asp Gly Thr
        435                 440                 445

Lys Ile Pro Met Phe Ile Val His Lys Lys Gly Ile Lys Leu Asp Gly
    450                 455                 460

Ser His Pro Ala Phe Leu Tyr Gly Tyr Gly Gly Phe Asn Ile Ser Ile
465                 470                 475                 480

Thr Pro Asn Tyr Ser Val Ser Arg Leu Ile Phe Val Arg His Met Gly
                485                 490                 495

Gly Ile Leu Ala Val Ala Asn Ile Arg Gly Gly Gly Glu Tyr Gly Glu
            500                 505                 510

Thr Trp His Lys Gly Gly Ile Leu Ala Asn Lys Gln Asn Cys Phe Asp
        515                 520                 525

Asp Phe Gln Cys Ala Ala Glu Tyr Leu Ile Lys Glu Gly Tyr Thr Ser
    530                 535                 540

Pro Lys Arg Leu Thr Ile Asn Gly Gly Ser Asn Gly Gly Leu Leu Val
545                 550                 555                 560

Ala Ala Cys Ala Asn Gln Arg Pro Asp Leu Phe Gly Cys Val Ile Ala
                565                 570                 575

Gln Val Gly Val Met Asp Met Leu Lys Phe His Lys Tyr Thr Ile Gly
            580                 585                 590

His Ala Trp Thr Thr Asp Tyr Gly Cys Ser Asp Ser Lys Gln His Phe
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```
        595                 600                 605

Glu Trp Leu Val Lys Tyr Ser Pro Leu His Asn Val Lys Leu Pro Glu
    610                 615                 620

Ala Asp Asp Ile Gln Tyr Pro Ser Met Leu Leu Leu Thr Ala Asp His
625                 630                 635                 640

Asp Asp Arg Val Val Pro Leu His Ser Leu Lys Phe Ile Ala Thr Leu
                645                 650                 655

Gln Tyr Ile Val Gly Arg Ser Arg Lys Gln Ser Asn Pro Leu Leu Ile
            660                 665                 670

His Val Asp Thr Lys Ala Gly His Gly Ala Gly Lys Pro Thr Ala Lys
        675                 680                 685

Val Ile Glu Glu Val Ser Asp Met Phe Ala Phe Ile Ala Arg Cys Leu
    690                 695                 700

Asn Val Asp Trp Ile Pro
705                 710
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