

SEQUENCE LISTING

<110> 4TEEN4 Pharmaceuticals GmbH

<120> DPP3 in patients infected with coronavirus

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<210> 1

<211> 737

<212> PRT

<213> Homo sapiens

<400> 1

Met Ala Asp Thr Gln Tyr Ile Leu Pro Asn Asp Ile Gly Val Ser Ser
1 5 10 15

Leu Asp Cys Arg Glu Ala Phe Arg Leu Leu Ser Pro Thr Glu Arg Leu
20 25 30

Tyr Ala Tyr His Leu Ser Arg Ala Ala Trp Tyr Gly Gly Leu Ala Val
35 40 45

Leu Leu Gln Thr Ser Pro Glu Ala Pro Tyr Ile Tyr Ala Leu Leu Ser
50 55 60

Arg Leu Phe Arg Ala Gln Asp Pro Asp Gln Leu Arg Gln His Ala Leu
65 70 75 80

Ala Glu Gly Leu Thr Glu Glu Glu Tyr Gln Ala Phe Leu Val Tyr Ala
85 90 95

Ala Gly Val Tyr Ser Asn Met Gly Asn Tyr Lys Ser Phe Gly Asp Thr
100 105 110

Lys Phe Val Pro Asn Leu Pro Lys Glu Lys Leu Glu Arg Val Ile Leu
115 120 125

Gly Ser Glu Ala Ala Gln Gln His Pro Glu Glu Val Arg Gly Leu Trp
130 135 140

Gln Thr Cys Gly Glu Leu Met Phe Ser Leu Glu Pro Arg Leu Arg His
145 150 155 160

Leu Gly Leu Gly Lys Glu Gly Ile Thr Thr Tyr Phe Ser Gly Asn Cys
165 170 175

Thr Met Glu Asp Ala Lys Leu Ala Gln Asp Phe Leu Asp Ser Gln Asn
180 185 190

Leu Ser Ala Tyr Asn Thr Arg Leu Phe Lys Glu Val Asp Gly Glu Gly
195 200 205

Lys Pro Tyr Tyr Glu Val Arg Leu Ala Ser Val Leu Gly Ser Glu Pro
210 215 220

Ser Leu Asp Ser Glu Val Thr Ser Lys Leu Lys Ser Tyr Glu Phe Arg
225 230 235 240

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

Lys Val Val Glu Gln Leu Glu Lys Ala Lys Ala Tyr Ala Ala Asn Ser
260 265 270

His Gln Gly Gln Met Leu Ala Gln Tyr Ile Glu Ser Phe Thr Gln Gly

275

280

285

Ser Ile Glu Ala His Lys Arg Gly Ser Arg Phe Trp Ile Gln Asp Lys
 290 295 300

Gly Pro Ile Val Glu Ser Tyr Ile Gly Phe Ile Glu Ser Tyr Arg Asp
 305 310 315 320

Pro Phe Gly Ser Arg Gly Glu Phe Glu Gly Phe Val Ala Val Val Asn
 325 330 335

Lys Ala Met Ser Ala Lys Phe Glu Arg Leu Val Ala Ser Ala Glu Gln
 340 345 350

Leu Leu Lys Glu Leu Pro Trp Pro Pro Thr Phe Glu Lys Asp Lys Phe
 355 360 365

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

Gly Ile Pro Ala Gly Ile Asn Ile Pro Asn Tyr Asp Asp Leu Arg Gln
 385 390 395 400

Thr Glu Gly Phe Lys Asn Val Ser Leu Gly Asn Val Leu Ala Val Ala
 405 410 415

Tyr Ala Thr Gln Arg Glu Lys Leu Thr Phe Leu Glu Glu Asp Asp Lys
 420 425 430

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

Leu His Glu Leu Leu Gly His Gly Ser Gly Lys Leu Phe Val Gln Asp
 450 455 460

Glu Lys Gly Ala Phe Asn Phe Asp Gln Glu Thr Val Ile Asn Pro Glu
 465 470 475 480

Thr Gly Glu Gln Ile Gln Ser Trp Tyr Arg Ser Gly Glu Thr Trp Asp
485 490 495

Ser Lys Phe Ser Thr Ile Ala Ser Ser Tyr Glu Glu Cys Arg Ala Glu
500 505 510

Ser Val Gly Leu Tyr Leu Cys Leu His Pro Gln Val Leu Glu Ile Phe
515 520 525

Gly Phe Glu Gly Ala Asp Ala Glu Asp Val Ile Tyr Val Asn Trp Leu
530 535 540

Asn Met Val Arg Ala Gly Leu Leu Ala Leu Glu Phe Tyr Thr Pro Glu
545 550 555 560

Ala Phe Asn Trp Arg Gln Ala His Met Gln Ala Arg Phe Val Ile Leu
565 570 575

Arg Val Leu Leu Glu Ala Gly Glu Gly Leu Val Thr Ile Thr Pro Thr
580 585 590

Thr Gly Ser Asp Gly Arg Pro Asp Ala Arg Val Arg Leu Asp Arg Ser
595 600 605

Lys Ile Arg Ser Val Gly Lys Pro Ala Leu Glu Arg Phe Leu Arg Arg
610 615 620

Leu Gln Val Leu Lys Ser Thr Gly Asp Val Ala Gly Gly Arg Ala Leu
625 630 635 640

Tyr Glu Gly Tyr Ala Thr Val Thr Asp Ala Pro Pro Glu Cys Phe Leu
645 650 655

Thr Leu Arg Asp Thr Val Leu Leu Arg Lys Glu Ser Arg Lys Leu Ile
660 665 670

Val Gln Pro Asn Thr Arg Leu Glu Gly Ser Asp Val Gln Leu Leu Glu

675

680

685

Tyr Glu Ala Ser Ala Ala Gly Leu Ile Arg Ser Phe Ser Glu Arg Phe
 690 695 700

Pro Glu Asp Gly Pro Glu Leu Glu Glu Ile Leu Thr Gln Leu Ala Thr
 705 710 715 720

Ala Asp Ala Arg Phe Trp Lys Gly Pro Ser Glu Ala Pro Ser Gly Gln
 725 730 735

Ala

<210> 2
 <211> 21
 <212> PRT
 <213> Homo sapiens

<400> 2

Cys Glu Thr Val Ile Asn Pro Glu Thr Gly Glu Gln Ile Gln Ser Trp
 1 5 10 15

Tyr Arg Ser Gly Glu
 20

<210> 3
 <211> 6
 <212> PRT
 <213> Homo sapiens

<400> 3

Ile Asn Pro Glu Thr Gly
 1 5

<210> 4
 <211> 4
 <212> PRT
 <213> Homo sapiens

<400> 4

Glu Thr Gly Glu
1

<210> 5

<211> 116

<212> PRT

<213> Mus musculus

<400> 5

Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Gln Pro Ser Gln
1 5 10 15

Thr Leu Ser Leu Thr Cys Ser Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30

Gly Met Ser Val Gly Trp Ile Arg Gln Pro Ser Gly Lys Gly Leu Glu
35 40 45

Trp Leu Ala His Ile Trp Trp Asn Asp Asn Lys Ser Tyr Asn Pro Ala
50 55 60

Leu Lys Ser Arg Leu Thr Ile Ser Arg Asp Thr Ser Asn Asn Gln Val
65 70 75 80

Phe Leu Lys Ile Ala Ser Val Val Thr Ala Asp Thr Gly Thr Tyr Phe
85 90 95

Cys Ala Arg Asn Tyr Ser Tyr Asp Tyr Trp Gly Gln Gly Thr Thr Leu
100 105 110

Thr Val Ser Ser
115

<210> 6

<211> 112

<212> PRT

<213> Mus musculus

<400> 6

Asp Val Val Val Thr Gln Thr Pro Leu Ser Leu Ser Val Ser Leu Gly
1 5 10 15

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

Ile Gly Ser Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Phe Cys Ser Gln Ser
85 90 95

Thr His Val Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 7

<211> 10

<212> PRT

<213> Mus musculus

<400> 7

Gly Phe Ser Leu Ser Thr Ser Gly Met Ser
1 5 10

<210> 8

<211> 7

<212> PRT

<213> Mus musculus

<400> 8

Ile Trp Trp Asn Asp Asn Lys
1 5

<210> 9
<211> 8
<212> PRT
<213> Mus musculus

<400> 9

Ala Arg Asn Tyr Ser Tyr Asp Tyr
1 5

<210> 10
<211> 11
<212> PRT
<213> Mus musculus

<400> 10

Arg Ser Leu Val His Ser Ile Gly Ser Thr Tyr
1 5 10

<210> 11
<211> 9
<212> PRT
<213> Mus musculus

<400> 11

Ser Gln Ser Thr His Val Pro Trp Thr
1 5

<210> 12
<211> 938
<212> PRT
<213> Homo sapiens

<400> 12

Met Asp Pro Lys Gly Ser Leu Ser Trp Arg Ile Leu Leu Phe Leu Ser
1 5 10 15

Leu Ala Phe Glu Leu Ser Tyr Gly Gln Ile Thr Leu Lys Glu Ser Gly
20 25 30

Pro Thr Leu Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe
35 40 45

Ser Gly Phe Ser Leu Ser Thr Ser Gly Met Ser Val Gly Trp Ile Arg
50 55 60

Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Ala His Ile Trp Trp Asn
65 70 75 80

Asp Asn Lys Ser Tyr Asn Pro Ala Leu Lys Ser Arg Leu Thr Ile Thr
85 90 95

Arg Asp Thr Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp
100 105 110

Pro Val Asp Thr Gly Thr Tyr Tyr Cys Ala Arg Asn Tyr Ser Tyr Asp
115 120 125

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys
130 135 140

Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly
145 150 155 160

Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
165 170 175

Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
180 185 190

Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
195 200 205

Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn
210 215 220

Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro
225 230 235 240

Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
245 250 255

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
260 265 270

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
275 280 285

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
290 295 300

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
305 310 315 320

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
325 330 335

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
340 345 350

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
355 360 365

Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn
370 375 380

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
385 390 395 400

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
405 410 415

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
420 425 430

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
435 440 445

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
450 455 460

Ser Leu Ser Pro Gly Met Asp Pro Lys Gly Ser Leu Ser Trp Arg Ile
465 470 475 480

Leu Leu Phe Leu Ser Leu Ala Phe Glu Leu Ser Tyr Gly Gln Ile Thr
485 490 495

Leu Lys Glu Ser Gly Pro Thr Leu Val Lys Pro Thr Gln Thr Leu Thr
500 505 510

Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser Gly Met Ser
515 520 525

Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Ala
530 535 540

His Ile Trp Trp Asn Asp Asn Lys Ser Tyr Asn Pro Ala Leu Lys Ser
545 550 555 560

Arg Leu Thr Ile Thr Arg Asp Thr Ser Lys Asn Gln Val Val Leu Thr
565 570 575

Met Thr Asn Met Asp Pro Val Asp Thr Gly Thr Tyr Tyr Cys Ala Arg
580 585 590

Asn Tyr Ser Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser
595 600 605

Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser
610 615 620

Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp
625 630 635 640

Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr
645 650 655

Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr
660 665 670

Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln
675 680 685

Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp
690 695 700

Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro
705 710 715 720

Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro
725 730 735

Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr
740 745 750

Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn
755 760 765

Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg
770 775 780

Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val
785 790 795 800

Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser
805 810 815

Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys
820 825 830

Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp
835 840 845

Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe
850 855 860

Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
865 870 875 880

Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe
885 890 895

Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly
900 905 910

Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr
915 920 925

Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
930 935

<210> 13
<211> 239
<212> PRT
<213> Homo sapiens

<400> 13

Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
1 5 10 15

Gly Ser Thr Gly Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser
20 25 30

Val Thr Pro Gly Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Arg Ser
35 40 45

Leu Val His Ser Ile Gly Ser Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys
50 55 60

Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe
65 70 75 80

Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
85 90 95

Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr
100 105 110

Cys Ser Gln Ser Thr His Val Pro Trp Thr Phe Gly Gly Gly Thr Lys
115 120 125

Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro
130 135 140

Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu
145 150 155 160

Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp
165 170 175

Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp
180 185 190

Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys
195 200 205

Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln
210 215 220

Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
225 230 235

<210> 14

<211> 25

<212> PRT

<213> Peptide used for Epitope mapping

<400> 14

Ala Phe Asn Phe Asp Gln Glu Thr Val Ile Asn Pro Glu Thr Gly Glu
1 5 10 15

Gln Ile Gln Ser Trp Tyr Arg Ser Gly
20 25

<210> 15

<211> 19

<212> PRT

<213> Peptide used for Epitope mapping

<400> 15

Ala Phe Asn Phe Asp Gln Glu Thr Val Ile Asn Pro Glu Thr Gly Glu
1 5 10 15

Gln Ile Gln

<210> 16

<211> 18

<212> PRT

<213> Peptide used for Epitope mapping

<400> 16

Ala Phe Asn Phe Asp Gln Glu Thr Val Ile Asn Pro Glu Thr Gly Glu
1 5 10 15

Gln Ile

<210> 17

<211> 17

<212> PRT

<213> Peptide used for Epitope mapping

<400> 17

Ala Phe Asn Phe Asp Gln Glu Thr Val Ile Asn Pro Glu Thr Gly Glu
1 5 10 15

Gln

<210> 18
<211> 16
<212> PRT
<213> Peptide used for Epitope mapping

<400> 18

Ala	Phe	Asn	Phe	Asp	Gln	Glu	Thr	Val	Ile	Asn	Pro	Glu	Thr	Gly	Glu
1				5					10					15	

<210> 19
<211> 15
<212> PRT
<213> Peptide used for Epitope mapping

<400> 19

Ala	Phe	Asn	Phe	Asp	Gln	Glu	Thr	Val	Ile	Asn	Pro	Glu	Thr	Gly
1				5					10					15

<210> 20
<211> 14
<212> PRT
<213> Peptide used for Epitope mapping

<400> 20

Ala	Phe	Asn	Phe	Asp	Gln	Glu	Thr	Val	Ile	Asn	Pro	Glu	Thr
1				5					10				

<210> 21
<211> 13
<212> PRT
<213> Peptide used for Epitope mapping

<400> 21

Ala	Phe	Asn	Phe	Asp	Gln	Glu	Thr	Val	Ile	Asn	Pro	Glu
1				5					10			

<210> 22

<211> 12
<212> PRT
<213> Peptide used for Epitope mapping

<400> 22

Ala Phe Asn Phe Asp Gln Glu Thr Val Ile Asn Pro
1 5 10

<210> 23
<211> 11
<212> PRT
<213> Peptide used for Epitope mapping

<400> 23

Ala Phe Asn Phe Asp Gln Glu Thr Val Ile Asn
1 5 10

<210> 24
<211> 11
<212> PRT
<213> Peptide used for Epitope mapping

<400> 24

Glu Thr Gly Glu Gln Ile Gln Ser Trp Tyr Lys
1 5 10

<210> 25
<211> 12
<212> PRT
<213> Peptide used for Epitope mapping

<400> 25

Pro Glu Thr Gly Glu Gln Ile Gln Ser Trp Tyr Lys
1 5 10

<210> 26
<211> 13
<212> PRT
<213> Peptide used for Epitope mapping

<400> 26

Asn Pro Glu Thr Gly Glu Gln Ile Gln Ser Trp Tyr Lys
1 5 10

<210> 27
<211> 14
<212> PRT
<213> Peptide used for Epitope mapping

<400> 27

Ile Asn Pro Glu Thr Gly Glu Gln Ile Gln Ser Trp Tyr Lys
1 5 10

<210> 28
<211> 15
<212> PRT
<213> Peptide used for Epitope mapping

<400> 28

Val Ile Asn Pro Glu Thr Gly Glu Gln Ile Gln Ser Trp Tyr Lys
1 5 10 15

<210> 29
<211> 16
<212> PRT
<213> Peptide used for Epitope mapping

<400> 29

Thr Val Ile Asn Pro Glu Thr Gly Glu Gln Ile Gln Ser Trp Tyr Lys
1 5 10 15

<210> 30
<211> 17
<212> PRT
<213> Peptide used for Epitope mapping

<400> 30

Glu Thr Val Ile Asn Pro Glu Thr Gly Glu Gln Ile Gln Ser Trp Tyr
1 5 10 15

Lys

