

1
LISTADO DE SECUENCIAS

<110> Consejo Superior de Investigaciones Científicas y
Universidad Autónoma de Barcelona

<120> Biosensor para la detección de anticuerpos anti-VIH

<130> 1641.96

<160> 2

<170> PatentIn version 3.5

<210> 1

<211> 1072

<212> PRT

<213> Secuencia artificial

<220> mat_peptide

<223> Secuencia de la enzima beta-galactosidasa HisNF795gpC.
Aminoácidos 3 al 8; cola de histidinas (His-tag).
Aminoácidos 12 al 18; Sitio de reconocimiento de la proteasa.
Aminoácidos 790 al 825; Sitio de reconocimiento para anticuerpos
anti-VIH.

<400> 1

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Gln Gly Ala Val Val Leu Gln Arg Arg Asp Trp Glu Asn Pro Gly Val
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Thr Gln Leu Asn Arg Leu Ala Ala His Pro Pro Phe Ala Ser Trp Arg
35 40 45

Asn Ser Glu Glu Ala Arg Thr Asp Arg Pro Ser Gln Gln Leu Arg Ser
50 55 60

Leu Asn Gly Glu Trp Arg Phe Ala Trp Phe Pro Ala Pro Glu Ala Val
65 70 75 80

Pro Glu Ser Trp Leu Glu Cys Asp Leu Pro Asp Ala Asp Thr Val Val
85 90 95

Val Pro Ser Asn Trp Gln Met His Gly Tyr Asp Ala Pro Ile Tyr Thr
100 105 110

Asn Val Thr Tyr Pro Ile Thr Val Asn Pro Pro Phe Val Pro Ala Glu
115 120 125

Asn Pro Thr Gly Cys Tyr Ser Leu Thr Phe Asn Ile Asp Glu Ser Trp
130 135 140

Leu Gln Glu Gly Gln Thr Arg Ile Ile Phe Asp Gly Val Asn Ser Ala
145 150 155 160

Phe His Leu Trp Cys Asn Gly Arg Trp Val Gly Tyr Gly Gln Asp Ser
165 170 175

Xaa Leu Pro Ser₁₈₀ Glu Phe Asp Leu Ser₁₈₅ Ala Phe Leu Arg Ala₁₉₀ Gly Glu
 Asn Arg Leu₁₉₅ Ala Val Met Val Leu₂₀₀ Arg Trp Ser Asp Gly₂₀₅ Ser Tyr Leu
 Glu Asp₂₁₀ Gln Asp Met Trp Arg₂₁₅ Met Ser Gly Ile Phe₂₂₀ Arg Asp Val Ser
 Leu₂₂₅ Leu His Lys Pro Thr₂₃₀ Thr Gln Ile Ser Asp₂₃₅ Phe Gln Val Thr Thr₂₄₀
 Leu Phe Asn Asp Asp₂₄₅ Phe Ser Arg Ala Val₂₅₀ Leu Glu Ala Glu Val₂₅₅ Gln
 Met Tyr Gly Glu₂₆₀ Leu Arg Asp Glu Leu₂₆₅ Arg Val Thr Val Ser₂₇₀ Leu Trp
 Gln Gly Glu₂₇₅ Thr Gln Val Ala Ser₂₈₀ Gly Thr Ala Pro Phe₂₈₅ Gly Gly Glu
 Ile Ile₂₉₀ Asp Glu Arg Gly Gly₂₉₅ Tyr Ala Asp Arg Val₃₀₀ Thr Leu Arg Leu
 Asn Val Glu Asn Pro Glu₃₁₀ Leu Trp Ser Ala Glu₃₁₅ Ile Pro Asn Leu Tyr₃₂₀
 Arg Ala Val Val Glu₃₂₅ Leu His Thr Ala Asp₃₃₀ Gly Thr Leu Ile Glu₃₃₅ Ala
 Glu Ala Cys Asp₃₄₀ Val Gly Phe Arg Glu₃₄₅ Val Arg Ile Glu Asn₃₅₀ Gly Leu
 Leu Leu Leu₃₅₅ Asn Gly Lys Pro Leu₃₆₀ Leu Ile Arg Gly Val₃₆₅ Asn Arg His
 Glu His₃₇₀ His Pro Leu His Gly₃₇₅ Gln Val Met Asp Glu₃₈₀ Gln Thr Met Val
 Gln Asp Ile Leu Leu Met₃₉₀ Lys Gln Asn Asn Phe₃₉₅ Asn Ala Val Arg Cys₄₀₀
 Ser His Tyr Pro Asn₄₀₅ His Pro Leu Trp Tyr₄₁₀ Thr Leu Cys Asp Arg₄₁₅ Tyr
 Gly Leu Tyr Val₄₂₀ Val Asp Glu Ala Asn₄₂₅ Ile Glu Thr His Gly₄₃₀ Met Val
 Pro Met Asn₄₃₅ Arg Leu Thr Asp Asp₄₄₀ Pro Arg Trp Leu Pro₄₄₅ Ala Met Ser

Glu Arg Val Thr Arg Met Val Gln Arg Asp Arg Asn His Pro Ser Val
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 Ile Ile Trp Ser Leu Gly Asn Glu Ser Gly His Gly Ala Asn His Asp
 465 470 475 480
 Ala Leu Tyr Arg Trp Ile Lys Ser Val Asp Pro Ser Arg Pro Val Gln
 485 490 495
 Tyr Glu Gly Gly Gly Ala Asp Thr Thr Ala Thr Asp Ile Ile Cys Pro
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 Met Tyr Ala Arg Val Asp Glu Asp Gln Pro Phe Pro Ala Val Pro Lys
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 Trp Ser Ile Lys Lys Trp Leu Ser Leu Pro Gly Glu Met Arg Pro Leu
 530 535 540
 Ile Leu Cys Glu Tyr Ala His Ala Met Gly Asn Ser Leu Gly Gly Phe
 545 550 555 560
 Ala Lys Tyr Trp Gln Ala Phe Arg Gln Tyr Pro Arg Leu Gln Gly Gly
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 Phe Val Trp Asp Trp Val Asp Gln Ser Leu Ile Lys Tyr Asp Glu Asn
 580 585 590
 Gly Asn Pro Trp Ser Ala Tyr Gly Gly Asp Phe Gly Asp Thr Pro Asn
 595 600 605
 Asp Arg Gln Phe Cys Met Asn Gly Leu Val Phe Ala Asp Arg Thr Pro
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 His Pro Ala Leu Thr Glu Ala Lys His Gln Gln Gln Tyr Phe Gln Phe
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 Arg Leu Ser Gly Arg Thr Ile Glu Val Thr Ser Glu Tyr Leu Phe Arg
 645 650 655
 His Ser Asp Asn Glu Phe Leu His Trp Met Val Ala Leu Asp Gly Lys
 660 665 670
 Pro Leu Ala Ser Gly Glu Val Pro Leu Asp Val Gly Pro Gln Gly Lys
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 Gln Leu Ile Glu Leu Pro Glu Leu Pro Gln Pro Glu Ser Ala Gly Gln
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 Leu Trp Leu Thr Val Arg Val Val Gln Pro Asn Ala Thr Ala Trp Ser
 705 710 715 720

Glu Ala Gly His Ile⁷²⁵ Ser Ala Trp Gln Gln⁷³⁰⁴ Trp Arg Leu Ala Glu⁷³⁵ Asn
 Leu Ser Val⁷⁴⁰ Thr Leu Pro Ser Ala Ser⁷⁴⁵ His Ala Ile Pro Gln⁷⁵⁰ Leu Thr
 Thr Ser Gly⁷⁵⁵ Thr Asp Phe Cys Ile⁷⁶⁰ Glu Leu Gly Asn Lys⁷⁶⁵ Arg Trp Gln
 Phe Asn⁷⁷⁰ Arg Gln Ser Gly Phe⁷⁷⁵ Leu Ser Gln Met Trp⁷⁸⁰ Ile Gly Asp Glu
 Lys⁷⁸⁵ Gln Leu Leu Thr Pro⁷⁹⁰ Leu Arg Asp Gln Phe⁷⁹⁵ Thr Arg Ala Pro Leu⁸⁰⁰
 Asp Asn Asp Ile Gly⁸⁰⁵ Val Gly Ser Gly Ile⁸¹⁰ Lys Gln Leu Gln Ala⁸¹⁵ Arg
 Ile Leu Ala Val⁸²⁰ Glu Arg Tyr Leu Lys⁸²⁵ Asp Gln Gln Leu Leu⁸³⁰ Gly Ile
 Trp Gly Cys⁸³⁵ Ser Gly Lys Leu Ile⁸⁴⁰ Cys Thr Thr Gly Ser⁸⁴⁵ Ser Glu Ala
 Thr Arg⁸⁵⁰ Ile Asp Pro Asn Ala⁸⁵⁵ Trp Val Glu Arg Trp⁸⁶⁰ Lys Ala Ala Gly
 His⁸⁶⁵ Tyr Gln Ala Glu Ala⁸⁷⁰ Ala Leu Leu Gln Cys⁸⁷⁵ Thr Ala Asp Thr Leu⁸⁸⁰
 Ala Asp Ala Val⁸⁸⁵ Leu Ile Thr Thr Ala His⁸⁹⁰ Ala Trp Gln His Gln⁸⁹⁵ Gly
 Lys Thr Leu Phe⁹⁰⁰ Ile Ser Arg Lys Thr⁹⁰⁵ Tyr Arg Ile Asp Gly⁹¹⁰ His Gly
 Glu Met Val⁹¹⁵ Ile Asn Val Asp Val⁹²⁰ Ala Val Ala Ser Asp⁹²⁵ Thr Pro His
 Pro Ala⁹³⁰ Arg Ile Gly Leu Thr⁹³⁵ Cys Gln Leu Ala Gln⁹⁴⁰ Val Ser Glu Arg
 Val⁹⁴⁵ Asn Trp Leu Gly Leu⁹⁵⁰ Gly Pro Gln Glu Asn⁹⁵⁵ Tyr Pro Asp Arg Leu⁹⁶⁰
 Thr Ala Ala Cys⁹⁶⁵ Asp Arg Trp Asp Leu⁹⁷⁰ Pro Leu Ser Asp Met⁹⁷⁵ Tyr
 Thr Pro Tyr Val⁹⁸⁰ Phe Pro Ser Glu Asn⁹⁸⁵ Gly Leu Arg Cys Gly⁹⁹⁰ Thr Arg
 Glu Leu Asn Tyr Gly Pro His Gln Trp Arg Gly Asp Phe Gln Phe Asn

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 Ile Ser Arg Tyr Ser Gln Gln Gln Leu Met Glu Thr Ser His Arg
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 His Leu Leu His Ala Glu Glu Gly Thr Trp Leu Asn Ile Asp Gly
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 Phe His Met Gly Ile Gly Gly Asp Asp Ser Trp Ser Pro Ser Val
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 <213> Secuencia artificial
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 <223> Secuencia correspondiente a la enzima beta-galactosidasa NF795gpC.
 Aminoácidos 790 al 825; Sitio de reconocimiento para anticuerpos
 anti-VIH
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 Asn Arg Leu Ala Ala His Pro Pro Phe Ala Ser Trp Arg Asn Ser Glu
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 Glu Ala Arg Thr Asp Arg Pro Ser Gln Gln Leu Arg Ser Leu Asn Gly
 35 40 45
 Glu Trp Arg Phe Ala Trp Phe Pro Ala Pro Glu Ala Val Pro Glu Ser
 50 55 60
 Trp Leu Glu Cys Asp Leu Pro Asp Ala Asp Thr Val Val Val Pro Ser
 65 70 75 80
 Asn Trp Gln Met His Gly Tyr Asp Ala Pro Ile Tyr Thr Asn Val Thr
 85 90 95
 Tyr Pro Ile Thr Val Asn Pro Pro Phe Val Pro Ala Glu Asn Pro Thr
 100 105 110
 Gly Cys Tyr Ser Leu Thr Phe Asn Ile Asp Glu Ser Trp Leu Gln Glu
 115 120 125
 Gly Gln Thr Arg Ile Ile Phe Asp Gly Val Asn Ser Ala Phe His Leu
 130 135 140

Trp Cys Asn Gly Arg Trp Val Gly Tyr Gly Gln Asp Ser Xaa Leu Pro
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 Ser Glu Phe Asp Leu Ser Ala Phe Leu Arg Ala Gly Glu Asn Arg Leu
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 Ala Val Met Val Leu Arg Trp Ser Asp Gly Ser Tyr Leu Glu Asp Gln
 180 185 190
 Asp Met Trp Arg Met Ser Gly Ile Phe Arg Asp Val Ser Leu Leu His
 195 200 205
 Lys Pro Thr Thr Gln Ile Ser Asp Phe Gln Val Thr Thr Leu Phe Asn
 210 215 220
 Asp Asp Phe Ser Arg Ala Val Leu Glu Ala Glu Val Gln Met Tyr Gly
 225 230 235 240
 Glu Leu Arg Asp Glu Leu Arg Val Thr Val Ser Leu Trp Gln Gly Glu
 245 250 255
 Thr Gln Val Ala Ser Gly Thr Ala Pro Phe Gly Gly Glu Ile Ile Asp
 260 265 270
 Glu Arg Gly Gly Tyr Ala Asp Arg Val Thr Leu Arg Leu Asn Val Glu
 275 280 285
 Asn Pro Glu Leu Trp Ser Ala Glu Ile Pro Asn Leu Tyr Arg Ala Val
 290 295 300
 Val Glu Leu His Thr Ala Asp Gly Thr Leu Ile Glu Ala Glu Ala Cys
 305 310 315 320
 Asp Val Gly Phe Arg Glu Val Arg Ile Glu Asn Gly Leu Leu Leu Leu
 325 330 335
 Asn Gly Lys Pro Leu Leu Ile Arg Gly Val Asn Arg His Glu His His
 340 345 350
 Pro Leu His Gly Gln Val Met Asp Glu Gln Thr Met Val Gln Asp Ile
 355 360 365
 Leu Leu Met Lys Gln Asn Asn Phe Asn Ala Val Arg Cys Ser His Tyr
 370 375 380
 Pro Asn His Pro Leu Trp Tyr Thr Leu Cys Asp Arg Tyr Gly Leu Tyr
 385 390 395 400
 Val Val Asp Glu Ala Asn Ile Glu Thr His Gly Met Val Pro Met Asn
 405 410 415

Arg Leu Thr Asp₄₂₀ Asp Pro Arg Trp Leu₄₂₅ Pro Ala Met Ser Glu₄₃₀ Arg Val
 Thr Arg Met₄₃₅ Val Gln Arg Asp Arg₄₄₀ Asn His Pro Ser Val₄₄₅ Ile Ile Trp
 Ser Leu₄₅₀ Gly Asn Glu Ser Gly₄₅₅ His Gly Ala Asn His₄₆₀ Asp Ala Leu Tyr
 Arg Trp Ile Lys Ser Val₄₇₀ Asp Pro Ser Arg Pro₄₇₅ Val Gln Tyr Glu Gly₄₈₀
 Gly Gly Ala Asp Thr₄₈₅ Thr Ala Thr Asp Ile₄₉₀ Ile Cys Pro Met Tyr₄₉₅ Ala
 Arg Val Asp Glu₅₀₀ Asp Gln Pro Phe Pro₅₀₅ Ala Val Pro Lys Trp₅₁₀ Ser Ile
 Lys Lys Trp₅₁₅ Leu Ser Leu Pro Gly₅₂₀ Glu Met Arg Pro Leu₅₂₅ Ile Leu Cys
 Glu Tyr₅₃₀ Ala His Ala Met Gly₅₃₅ Asn Ser Leu Gly Gly₅₄₀ Phe Ala Lys Tyr
 Trp Gln Ala Phe Arg Gln₅₅₀ Tyr Pro Arg Leu Gln₅₅₅ Gly Gly Phe Val Trp₅₆₀
 Asp Trp Val Asp Gln₅₆₅ Ser Leu Ile Lys Tyr₅₇₀ Asp Glu Asn Gly Asn₅₇₅ Pro
 Trp Ser Ala Tyr₅₈₀ Gly Gly Asp Phe Gly₅₈₅ Asp Thr Pro Asn Asp₅₉₀ Arg Gln
 Phe Cys Met₅₉₅ Asn Gly Leu Val Phe₆₀₀ Ala Asp Arg Thr Pro His Pro Ala
 Leu Thr Glu Ala Lys His Gln₆₁₅ Gln Gln Tyr Phe Gln₆₂₀ Phe Arg Leu Ser
 Gly Arg Thr Ile Glu Val₆₃₀ Thr Ser Glu Tyr Leu₆₃₅ Phe Arg His Ser Asp₆₄₀
 Asn Glu Phe Leu His₆₄₅ Trp Met Val Ala Leu₆₅₀ Asp Gly Lys Pro Leu Ala
 Ser Gly Glu Val₆₆₀ Pro Leu Asp Val Gly₆₆₅ Pro Gln Gly Lys Gln₆₇₀ Leu Ile
 Glu Leu Pro₆₇₅ Glu Leu Pro Gln Pro₆₈₀ Glu Ser Ala Gly Gln₆₈₅ Leu Trp Leu

Thr Val Arg Val Val Gln Pro Asn Ala Thr⁸ Ala Trp Ser Glu Ala Gly
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 His Ile Ser Ala Trp Gln Gln Trp Arg Leu Ala Glu Asn Leu Ser Val
 705 710 715 720
 Thr Leu Pro Ser Ala Ser His Ala Ile Pro Gln Leu Thr Thr Ser Gly
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 Thr Asp Phe Cys Ile Glu Leu Gly Asn Lys Arg Trp Gln Phe Asn Arg
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 Gln Ser Gly Phe Leu Ser Gln Met Trp Ile Gly Asp Glu Lys Gln Leu
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 770 775 780
 Ile Gly Val Gly Ser Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala
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 Val Glu Arg Tyr Leu Lys Asp Gln Gln Leu Leu Gly Ile Trp Gly Cys
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 Ser Gly Lys Leu Ile Cys Thr Thr Gly Ser Ser Glu Ala Thr Arg Ile
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 Ala Glu Ala Ala Leu Leu Gln Cys Thr Ala Asp Thr Leu Ala Asp Ala
 850 855 860
 Val Leu Ile Thr Thr Ala His Ala Trp Gln His Gln Gly Lys Thr Leu
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 Phe Ile Ser Arg Lys Thr Tyr Arg Ile Asp Gly His Gly Glu Met Val
 885 890 895
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 Leu Gly Leu Gly Pro Gln Glu Asn Tyr Pro Asp Arg Leu Thr Ala Ala
 930 935 940
 Cys Phe Asp Arg Trp Asp Leu Pro Leu Ser Asp Met Tyr Thr Pro Tyr
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Tyr Gly Pro His Gln Trp Arg Gly Asp Phe Gln Phe Asn Ile Ser Arg
980 985 990

Tyr Ser Gln Gln Gln Leu Met Glu Thr Ser His Arg His Leu Leu His
995 1000 1005

Ala Glu Glu Gly Thr Trp Leu Asn Ile Asp Gly Phe His Met Gly
1010 1015 1020

Ile Gly Gly Asp Asp Ser Trp Ser Pro Ser Val Ser Ala Glu Phe
1025 1030 1035

Gln Leu Ser Ala Gly Arg Tyr His Tyr Gln Leu Val Trp Cys Gln
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