

eolf-seq1
SEQUENCE LISTING

<110> Sanofi

<120> 21-Hydroxylation of steroids

<130> DE2014/089 wo

<160> 4

<170> PatentIn version 3.5

<210> 1

<211> 495

<212> PRT

<213> Homo sapiens

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20 25 30

Leu Ala Pro Gly Phe Leu His Leu Leu Gln Pro Asp Leu Pro Ile Tyr
35 40 45

Leu Leu Gly Leu Thr Gln Lys Phe Gly Pro Ile Tyr Arg Leu His Leu
50 55 60

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

Ala Met Val Lys Lys Trp Ala Asp Phe Ala Gly Arg Pro Glu Pro Leu
85 90 95

Thr Tyr Lys Leu Val Ser Arg Asn Tyr Pro Asp Leu Ser Leu Gly Asp
100 105 110

Tyr Ser Leu Leu Trp Lys Ala His Lys Lys Leu Thr Arg Ser Ala Leu
115 120 125

Leu Leu Gly Ile Arg Asp Ser Met Glu Pro Val Val Glu Gln Leu Thr
130 135 140

Gln Glu Phe Cys Glu Arg Met Arg Ala Gln Pro Gly Thr Pro Val Ala
145 150 155 160

Ile Glu Glu Glu Phe Ser Leu Leu Thr Cys Ser Ile Ile Cys Tyr Leu
165 170 175

Thr Phe Gly Asp Lys Ile Lys Asp Asp Asn Leu Met Pro Ala Tyr Tyr
180 185 190

Lys Cys Ile Gln Glu Val Leu Lys Thr Trp Ser His Trp Ser Ile Gln
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195

200

205

Ile Val Asp Val Ile Pro Phe Leu Arg Phe Phe Pro Asn Pro Gly Leu
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Arg Arg Leu Lys Gln Ala Ile Glu Lys Arg Asp His Ile Val Glu Met
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245 250 255
Met Met Asp Tyr Met Leu Gln Gly Val Ala Gln Pro Ser Met Glu Glu
260 265 270
Gly Ser Gly Gln Leu Leu Glu Gly His Val His Met Ala Ala Val Asp
275 280 285
Leu Leu Ile Gly Gly Thr Glu Thr Thr Ala Asn Thr Leu Ser Trp Ala
290 295 300
Val Val Phe Leu Leu His His Pro Glu Ile Gln Gln Arg Leu Gln Glu
305 310 315 320
Glu Leu Asp His Glu Leu Gly Pro Gly Ala Ser Ser Ser Arg Val Pro
325 330 335
Tyr Lys Asp Arg Ala Arg Leu Pro Leu Leu Asn Ala Thr Ile Ala Glu
340 345 350
Val Leu Arg Leu Arg Pro Val Val Pro Leu Ala Leu Pro His Arg Thr
355 360 365
Thr Arg Pro Ser Ser Ile Ser Gly Tyr Asp Ile Pro Glu Gly Thr Val
370 375 380
Ile Ile Pro Asn Leu Gln Gly Ala His Leu Asp Glu Thr Val Trp Glu
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Arg Pro His Glu Phe Trp Pro Asp Arg Phe Leu Glu Pro Gly Lys Asn
405 410 415
Ser Arg Ala Leu Ala Phe Gly Cys Gly Ala Arg Val Cys Leu Gly Glu
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Pro Leu Ala Arg Leu Glu Leu Phe Val Val Leu Thr Arg Leu Leu Gln
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Ala Phe Thr Leu Leu Pro Ser Gly Asp Ala Leu Pro Ser Leu Gln Pro
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475

465

470

480

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<212> PRT
<213> Bos taurus
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Leu Val Pro Gly Phe Leu His Leu Leu Gln Pro Asn Leu Pro Ile His
35 40 45

Leu Leu Ser Leu Thr Gln Lys Leu Gly Pro Val Tyr Arg Leu Arg Leu
50 55 60

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

Ala Met Ile Arg Lys Trp Val Asp Phe Ala Gly Arg Pro Gln Ile Pro
85 90 95

Ser Tyr Lys Leu Val Ser Gln Arg Cys Gln Asp Ile Ser Leu Gly Asp
100 105 110

Tyr Ser Leu Leu Trp Lys Ala His Lys Lys Leu Thr Arg Ser Ala Leu
115 120 125

Leu Leu Gly Thr Arg Ser Ser Met Glu Pro Trp Val Asp Gln Leu Thr
130 135 140

Gln Glu Phe Cys Glu Arg Met Arg Val Gln Ala Gly Ala Pro Val Thr
145 150 155 160

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

Thr Phe Gly Asn Lys Glu Asp Thr Leu Val His Ala Phe His Asp Cys
180 185 190

Val Gln Asp Leu Met Lys Thr Trp Asp His Trp Ser Ile Gln Ile Leu
195 200 205

Asp Met Val Pro Phe Leu Arg Phe Phe Pro Asn Pro Gly Leu Trp Arg
210 215 220

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Leu Lys Gln Ala Ile Glu Asn Arg Asp His Met Val Glu Lys Gln Leu
225 230 235 240
Thr Arg His Lys Glu Ser Met Val Ala Gly Gln Trp Arg Asp Met Thr
245 250 255
Asp Tyr Met Leu Gln Gly Val Gly Arg Gln Arg Val Glu Glu Gly Pro
260 265 270
Gly Gln Leu Leu Glu Gly His Val His Met Ser Val Val Asp Leu Phe
275 280 285
Ile Gly Gly Thr Glu Thr Thr Ala Ser Thr Leu Ser Trp Ala Val Ala
290 295 300
Phe Leu Leu His His Pro Glu Ile Gln Arg Arg Leu Gln Glu Glu Leu
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Asp Arg Glu Leu Gly Pro Gly Ala Ser Cys Ser Arg Val Thr Tyr Lys
325 330 335
Asp Arg Ala Arg Leu Pro Leu Leu Asn Ala Thr Ile Ala Glu Val Leu
340 345 350
Arg Leu Arg Pro Val Val Pro Leu Ala Leu Pro His Arg Thr Thr Arg
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Pro Ser Ser Ile Phe Gly Tyr Asp Ile Pro Glu Gly Met Val Val Ile
370 375 380
Pro Asn Leu Gln Gly Ala His Leu Asp Glu Thr Val Trp Glu Gln Pro
385 390 395 400
His Glu Phe Arg Pro Asp Arg Phe Leu Glu Pro Gly Ala Asn Pro Ser
405 410 415
Ala Leu Ala Phe Gly Cys Gly Ala Arg Val Cys Leu Gly Glu Ser Leu
420 425 430
Ala Arg Leu Glu Leu Phe Val Val Leu Leu Arg Leu Leu Gln Ala Phe
435 440 445
Thr Leu Leu Pro Pro Pro Val Gly Ala Leu Pro Ser Leu Gln Pro Asp
450 455 460
Pro Tyr Cys Gly Val Asn Leu Lys Val Gln Pro Phe Gln Val Arg Leu
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 <212> PRT
 <213> Homo sapiens

<400> 3

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Thr Gln Lys Phe Gly Pro Ile Tyr Arg Leu His Leu Gly Leu Gln Asp
 35          40          45

Val Val Val Leu Asn Ser Lys Arg Thr Ile Glu Glu Ala Met Val Lys
 50          55          60

Lys Trp Ala Asp Phe Ala Gly Arg Pro Glu Pro Leu Thr Tyr Lys Leu
 65          70          75          80

Val Ser Arg Asn Tyr Pro Asp Leu Ser Leu Gly Asp Tyr Ser Leu Leu
 85          90          95

Trp Lys Ala His Lys Lys Leu Thr Arg Ser Ala Leu Leu Leu Gly Ile
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Arg Asp Ser Met Glu Pro Val Val Glu Gln Leu Thr Gln Glu Phe Cys
115          120          125

Glu Arg Met Arg Ala Gln Pro Gly Thr Pro Val Ala Ile Glu Glu Glu
130          135          140

Phe Ser Leu Leu Thr Cys Ser Ile Ile Cys Tyr Leu Thr Phe Gly Asp
145          150          155          160

Lys Ile Lys Asp Asp Asn Leu Met Pro Ala Tyr Tyr Lys Cys Ile Gln
165          170          175

Glu Val Leu Lys Thr Trp Ser His Trp Ser Ile Gln Ile Val Asp Val
180          185          190

Ile Pro Phe Leu Arg Phe Phe Pro Asn Pro Gly Leu Arg Arg Leu Lys
195          200          205

Gln Ala Ile Glu Lys Arg Asp His Ile Val Glu Met Gln Leu Arg Gln
210          215          220

His Lys Glu Ser Leu Val Ala Gly Gln Trp Arg Asp Met Met Asp Tyr
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Met Leu Gln Gly Val Ala Gln Pro Ser Met Glu Glu Gly Ser Gly Gln
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Leu Leu Glu Gly His Val His Met Ala Ala Val Asp Leu Leu Ile Gly
260 265 270

Gly Thr Glu Thr Thr Ala Asn Thr Leu Ser Trp Ala Val Val Phe Leu
275 280 285

Leu His His Pro Glu Ile Gln Gln Arg Leu Gln Glu Glu Leu Asp His
290 295 300

Glu Leu Gly Pro Gly Ala Ser Ser Ser Arg Val Pro Tyr Lys Asp Arg
305 310 315 320

Ala Arg Leu Pro Leu Leu Asn Ala Thr Ile Ala Glu Val Leu Arg Leu
325 330 335

Arg Pro Val Val Pro Leu Ala Leu Pro His Arg Thr Thr Arg Pro Ser
340 345 350

Ser Ile Ser Gly Tyr Asp Ile Pro Glu Gly Thr Val Ile Ile Pro Asn
355 360 365

Leu Gln Gly Ala His Leu Asp Glu Thr Val Trp Glu Arg Pro His Glu
370 375 380

Phe Trp Pro Asp Arg Phe Leu Glu Pro Gly Lys Asn Ser Arg Ala Leu
385 390 395 400

Ala Phe Gly Cys Gly Ala Arg Val Cys Leu Gly Glu Pro Leu Ala Arg
405 410 415

Leu Glu Leu Phe Val Val Leu Thr Arg Leu Leu Gln Ala Phe Thr Leu
420 425 430

Leu Pro Ser Gly Asp Ala Leu Pro Ser Leu Gln Pro Leu Pro His Cys
435 440 445

Ser Val Ile Leu Lys Met Gln Pro Phe Gln Val Arg Leu Gln Pro Arg
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<212> PRT

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<213> bos taurus

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Phe Leu His Leu Leu Gln Pro Asn Leu Pro Ile His Leu Leu Ser Leu
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Thr Gln Lys Leu Gly Pro Val Tyr Arg Leu Arg Leu Gly Leu Gln Glu
35 40 45

Val Val Val Leu Asn Ser Lys Arg Thr Ile Glu Glu Ala Met Ile Arg
50 55 60

Lys Trp Val Asp Phe Ala Gly Arg Pro Gln Ile Pro Ser Tyr Lys Leu
65 70 75 80

Val Ser Gln Arg Cys Gln Asp Ile Ser Leu Gly Asp Tyr Ser Leu Leu
85 90 95

Trp Lys Ala His Lys Lys Leu Thr Arg Ser Ala Leu Leu Leu Gly Thr
100 105 110

Arg Ser Ser Met Glu Pro Trp Val Asp Gln Leu Thr Gln Glu Phe Cys
115 120 125

Glu Arg Met Arg Val Gln Ala Gly Ala Pro Val Thr Ile Gln Lys Glu
130 135 140

Phe Ser Leu Leu Thr Cys Ser Ile Ile Cys Tyr Leu Thr Phe Gly Asn
145 150 155 160

Lys Glu Asp Thr Leu Val His Ala Phe His Asp Cys Val Gln Asp Leu
165 170 175

Met Lys Thr Trp Asp His Trp Ser Ile Gln Ile Leu Asp Met Val Pro
180 185 190

Phe Leu Arg Phe Phe Pro Asn Pro Gly Leu Trp Arg Leu Lys Gln Ala
195 200 205

Ile Glu Asn Arg Asp His Met Val Glu Lys Gln Leu Thr Arg His Lys
210 215 220

Glu Ser Met Val Ala Gly Gln Trp Arg Asp Met Thr Asp Tyr Met Leu
225 230 235 240

Gln Gly Val Gly Arg Gln Arg Val Glu Glu Gly Pro Gly Gln Leu Leu
245 250 255

Glu Gly His Val₂₆₀ His Met Ser Val Val₂₆₅ ^{eof-seq1} Asp Leu Phe Ile Gly₂₇₀ Gly Thr
 Glu Thr Thr₂₇₅ Ala Ser Thr Leu Ser₂₈₀ Trp Ala Val Ala Phe₂₈₅ Leu Leu His
 His Pro₂₉₀ Glu Ile Gln Arg Arg₂₉₅ Leu Gln Glu Glu Leu₃₀₀ Asp Arg Glu Leu
 Gly₃₀₅ Pro Gly Ala Ser Cys₃₁₀ Ser Arg Val Thr Tyr₃₁₅ Lys Asp Arg Ala Arg₃₂₀
 Leu Pro Leu Leu Asn₃₂₅ Ala Thr Ile Ala Glu₃₃₀ Val Leu Arg Leu Arg₃₃₅ Pro
 Val Val Pro Leu₃₄₀ Ala Leu Pro His Arg₃₄₅ Thr Thr Arg Pro Ser₃₅₀ Ser Ile
 Phe Gly Tyr₃₅₅ Asp Ile Pro Glu Gly₃₆₀ Met Val Val Ile Pro₃₆₅ Asn Leu Gln
 Gly Ala₃₇₀ His Leu Asp Glu Thr₃₇₅ Val Trp Glu Gln Pro₃₈₀ His Glu Phe Arg
 Pro₃₈₅ Asp Arg Phe Leu Glu₃₉₀ Pro Gly Ala Asn Pro₃₉₅ Ser Ala Leu Ala Phe₄₀₀
 Gly Cys Gly Ala Arg₄₀₅ Val Cys Leu Gly Glu₄₁₀ Ser Leu Ala Arg Leu₄₁₅ Glu
 Leu Phe Val Val₄₂₀ Leu Leu Arg Leu Leu₄₂₅ Gln Ala Phe Thr Leu₄₃₀ Leu Pro
 Pro Pro Val₄₃₅ Gly Ala Leu Pro Ser₄₄₀ Leu Gln Pro Asp Pro₄₄₅ Tyr Cys Gly
 Val Asn Leu Lys Val Gln Pro₄₅₅ Phe Gln Val Arg Leu₄₆₀ Gln Pro Arg Gly
 Val₄₆₅ Glu Ala Gly Ala Trp₄₇₀ Glu Ser Ala Ser Ala₄₇₅ Gln His His His His₄₈₀
 His His