

IV0011-WO-IV0011-WO\_ST25  
SEQUENCE LISTING

<110> c-Lecta GmbH  
<120> Verfahren zur Reduktion eines Secodion-Derivats mit einer Alkohol-Dehydrogenase  
<130> IV0011-WO  
<150> EP 12000041.9  
<151> 2012-01-04  
<160> 10  
<170> PatentIn version 3.5  
<210> 1  
<211> 783  
<212> DNA  
<213> Escherichia coli

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ggcgcggatc tcagcaaagg ggaagccgtg cgtgggttag tggacaacgc cgtgcgtcaa      240
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gatttcccaa ccgagaaatg ggatgccatc ttagcgctga acctcagcgc agtgtttcat      360
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Leu Asn Gly Phe Gly Asp Ala Ala Glu Ile Glu Lys Val Arg Ala Gly
35           40           45

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Leu Ala Ala Gln His Gly Val Lys Val Leu Tyr Asp Gly Ala Asp Leu  
50 55 60

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

Met Gly Arg Ile Asp Ile Leu Val Asn Asn Ala Gly Ile Leu His Thr  
85 90 95

Ala Leu Ile Glu Asp Phe Pro Thr Glu Lys Trp Asp Ala Ile Leu Ala  
100 105 110

Leu Asn Leu Ser Ala Val Phe His Gly Thr Ala Ala Ala Leu Pro His  
115 120 125

Met Lys Lys Gln Gly Phe Gly Arg Ile Ile Asn Ile Ala Ser Ala Thr  
130 135 140

Gly Leu Val Ala Ser Ala Asn His Ser Ala Tyr Val Ala Ala Lys His  
145 150 155 160

Gly Val Val Gly Phe Thr Lys Val Thr Ala Leu Glu Thr Ala Gly Gln  
165 170 175

Gly Ile Thr Ala Asn Ala Ile Cys Pro Gly Phe Val Arg Thr Pro Leu  
180 185 190

Leu Glu Lys Val Ile Ser Ala Leu Ala Glu Lys Asn Gly Val Asp Gln  
195 200 205

Glu Thr Ala Ala Arg Glu Leu Leu Ser Glu Lys Gln Pro Ser Leu Gln  
210 215 220

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

Asp Ala Ala Ala Gln Ile Thr Gly Thr Thr Val Ser Val Asp Gly Gly  
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Trp Thr Ala Arg  
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 35 40 45

Gly His Asp Asn Ala Leu Ala Val Ala Leu Asp Val Thr His Gln Ala  
 50 55 60

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

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

Glu Gly Val Glu Ser Glu Ile Arg Ala Gln Phe Asp Ala Asn Val Phe  
 100 105 110

Gly Leu Phe Ala Leu Thr Arg Ala Val Leu Pro Ala Met Arg Lys Ala  
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Arg Ser Gly His Val Ile Asn Ile Thr Ser Val Ala Gly Leu Ile Gly  
 130 135 140

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Phe Ala Ser Ser Gly Tyr Tyr Ser Ala Ser Lys His Ala Val Glu Gly  
145 150 155 160

Trp Ser Asp Ser Leu Ala Leu Glu Ala Gly Pro Leu Gly Ile Arg Val  
165 170 175

Thr Cys Val Glu Pro Gly Pro Phe Arg Thr Asp Trp Ala Gly Arg Ser  
180 185 190

Leu His Gln Thr Pro Ser Thr Leu Pro Asp Tyr Ala Glu Thr Ala Ala  
195 200 205

Ala Arg Met Lys Ala Thr Ala Glu Tyr Ser Gly Thr Gln Lys Gly Asp  
210 215 220

Pro Ala Arg Ala Ala Thr Ala Met Ile Ala Ile Thr Glu His Asp Asn  
225 230 235 240

Pro Pro Arg His Leu Val Met Gly Ala Trp Gly His Asp Ala Val Thr  
245 250 255

Ser Lys Leu Lys Glu Arg Leu Ala Glu Ile Glu Ala Trp Lys Gln Thr  
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Ser Val Glu Thr Asp Phe Pro Glu  
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aagaatgatg gattgctgaa aaaatttaag agcaatccca acctttcaat ggagattgtc 180  
gaagacattg ctgctccaaa cgcttttgac aaagtttttc aaaagcacgg caaagagatc 240  
aaggttgtct tgcacatagc ttctccggtt cacttcaaca ccaactgattt cgaaaaggat 300  
ctgctaattc ctgctgtgaa tgggtaccaag tccattctag aagcaatcaa aaattatgcc 360  
gcagacacag tcgaaaaagt cgttattact tcttctgttg ctgcccttgc atctcccgga 420  
gatatgaagg aactagttt cgttgtcaat gaggaaaagt ggaacaaaga tacttgggaa 480  
agttgtcaag ctaacgcggt ttccgcatac tgtggttcca agaaatttgc tgaaaaaact 540  
gcttgggatt ttctcgagga aaaccaatca agcatcaaat ttacgctatc aaccatcaac 600  
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Ile Gly Ser Gly Arg Ser Gln Glu Lys Asn Asp Gly Leu Leu Lys Lys  
 35 40 45

Phe Lys Ser Asn Pro Asn Leu Ser Met Glu Ile Val Glu Asp Ile Ala  
 50 55 60

Ala Pro Asn Ala Phe Asp Lys Val Phe Gln Lys His Gly Lys Glu Ile  
 65 70 75 80

Lys Val Val Leu His Ile Ala Ser Pro Val His Phe Asn Thr Thr Asp  
 85 90 95

Phe Glu Lys Asp Leu Leu Ile Pro Ala Val Asn Gly Thr Lys Ser Ile  
 100 105 110

Leu Glu Ala Ile Lys Asn Tyr Ala Ala Asp Thr Val Glu Lys Val Val  
 115 120 125

Ile Thr Ser Ser Val Ala Ala Leu Ala Ser Pro Gly Asp Met Lys Asp  
 130 135 140

Thr Ser Phe Val Val Asn Glu Glu Ser Trp Asn Lys Asp Thr Trp Glu  
 145 150 155 160

Ser Cys Gln Ala Asn Ala Val Ser Ala Tyr Cys Gly Ser Lys Lys Phe  
 165 170 175

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

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Lys Phe Thr Leu Ser Thr Ile Asn Pro Gly Phe Val Phe Gly Pro Gln  
195 200 205

Leu Phe Ala Asp Ser Leu Arg Asn Gly Ile Asn Ser Ser Ser Ala Ile  
210 215 220

Ile Ala Asn Leu Val Ser Tyr Lys Leu Gly Asp Asn Phe Tyr Asn Tyr  
225 230 235 240

Ser Gly Pro Phe Ile Asp Val Arg Asp Val Ser Lys Ala His Leu Leu  
245 250 255

Ala Phe Glu Lys Pro Glu Cys Ala Gly Gln Arg Leu Phe Leu Cys Glu  
260 265 270

Asp Met Phe Cys Ser Gln Glu Ala Leu Asp Ile Leu Asn Glu Glu Phe  
275 280 285

Pro Gln Leu Lys Gly Lys Ile Ala Thr Gly Glu Pro Gly Ser Gly Ser  
290 295 300

Thr Phe Leu Thr Lys Asn Cys Cys Lys Cys Asp Asn Arg Lys Thr Lys  
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Asn Leu Leu Gly Phe Gln Phe Asn Lys Phe Arg Asp Cys Ile Val Asp  
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Ile Val Ala Ala Ala Leu Asp Gln Asp Gly Leu Asp Thr Leu Val Arg  
35 40 45

Gln Ile Glu Ala Glu Gly Gly Arg Ala Val Gly Leu Val Thr Asp Val  
50 55 60

Thr Arg Leu Glu Glu Thr Gln Ala Leu Val Lys Phe Ala Ser Asp Thr  
65 70 75 80

Phe Gly Ser Ile Asp Ile Leu Ile Asn Asn Ala Gly Leu Met Leu Phe  
85 90 95

Ser Ser Trp Ser Asp Val Ala Trp Glu Glu Trp Asn Lys Met Val Asp  
100 105 110

Val Asn Ile Lys Gly Tyr Leu Asn Ala Ile Ala Ser Val Leu Pro Val  
115 120 125

Met Leu Lys Lys Asn Glu Gly Gln Ile Leu Asn Met Ala Ser Val Ala  
130 135 140

Gly His Gln Val Asp Ala Gly Ala Gly Val Tyr Ser Ala Thr Lys Phe  
145 150 155 160

Phe Val His Ala Met Thr Glu Ser Met Arg Lys Asp Leu Gly Val Asn  
165 170 175

Asn Gly Ile Arg Val Asn Thr Ile Ser Pro Gly Val Ile Asn Thr Gly  
180 185 190

Trp Ala Asp Lys Val Gly Asp Pro Gln Gly Arg Lys Val Ala Gln Glu  
195 200 205

Leu Asn Lys Leu Ala Ile Ser Pro Gln Asp Val Ala Asn Ala Val Val  
210 215 220

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Ser Pro Thr Arg Gln Asn Trp  
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agcgacgtcg aggcggccgg ctcttcaag ggtgcgcccc tgccggccag cagctacgac 240  
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gactggcaaa acatgctgac cgtgaacctg acggcgccga tcgccctcac gaaggcggtc 360  
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<212> PRT  
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Gly Val Glu Gln Leu Glu Ala Val Lys Ala Lys Leu Pro Val Val Lys  
35 40 45

Gln Gly Gln Thr His His Val Trp Gln Leu Asp Leu Ser Asp Val Glu  
50 55 60

Ala Ala Gly Ser Phe Lys Gly Ala Pro Leu Pro Ala Ser Ser Tyr Asp  
65 70 75 80

Val Phe Val Ser Asn Ala Gly Ile Ala Gln Phe Ser Pro Ile Ala Glu  
85 90 95



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His Ala Asp Ala Asp Trp Gln Asn Met Leu Thr Val Asn Leu Thr Ala  
100 105 110

Pro Ile Ala Leu Thr Lys Ala Val Val Lys Ala Ile Ser Asp Lys Pro  
115 120 125

Arg Glu Thr Pro Ala His Ile Ile Phe Ile Ser Thr Gly Leu Ser Lys  
130 135 140

Arg Gly Ala Pro Met Val Gly Val Tyr Ser Ala Ser Lys Ala Gly Ile  
145 150 155 160

Asp Gly Phe Met Arg Ser Leu Ala Arg Glu Leu Gly Pro Lys Gly Ile  
165 170 175

Asn Val Asn Cys Val Ser Pro Gly Val Thr Arg Thr Ala Ile Ser Asp  
180 185 190

Gly Val Asp Pro Ser Met Phe Asp Leu Pro Ile Ser Gly Trp Ile Glu  
195 200 205

Val Asp Ala Ile Ala Asp Ala Val Thr Tyr Leu Val Lys Ser Lys Asn  
210 215 220

Val Thr Gly Ala Ile Leu Val Val Asp Asn Gly Phe Ser Thr  
225 230 235