

# SEQUENCE LISTING

<110> L'OREAL

Dufour-, Cosima

Dufour-Schroif, Cosima

<120> UTILISATION DE DERIVES D'INDOLES OU INDOLINES O-GLYCOSYLES EN  
PRESENCE DE GLYCOSIDASE POUR LA COLORATION DES FIBRES  
KERATINIQUES

<130> PR2016091

<160> 3

<170> PatentIn version 3.5

<210> 1

<211> 1460

<212> DNA

<213> Arabidopsis thaliana

<400> 1

```
atggggaagc aagaagatgc agagctcgtc atcatacctt tccctttctc cggacacatt    60
ctcgcaacaa tcgaactcgc caaacgtctc ataagtcaag acaatcctcg gatccacacc    120
atccatcc tctattgggg attacctttt attcctcaag ctgacacaat cgctttcctc    180
cgatccctag tcaaaaatga gcctcgtatc cgtctcgtta cgttgcccga agtccaagac    240
cctccaccaa tgggaactctt tgtggaattt gccgaatctt acattcttga atacgtcaag    300
aaaatggttc ccatcatcag agaagctctc tccactctct tgtcttcccg cgatgaatcg    360
ggttcagttc gtgtggctgg attggttctt gactttctct gcgtccctat gatcgatgta    420
ggaaacgagt ttaatctccc ttcttacatt ttcttgacgt gtagcgcagg gttcttgggt    480
atgatgaagt atcttcaga gagacaccgc gaaatcaaat cgggaattcaa ccggagcttc    540
aacgaggagt tgaatctcat tcttggttat gtcaactctg ttctactaa ggttttgccg    600
tcaggtctat tcatgaaaga gacctacgag ccttgggctg aactagcaga gaggtttcct    660
gaagctaagg gtattttggt taattcatac acagctctcg agccaaacgg ttttaatat    720
ttcgatcgtt gtccggataa ctaccaacc atttacccaa tcgggcccat tttgaacctt    780
gaaaacaaaa aagacgatgc taaaaccgac gagattatga ggtggttaaa tgagcaaccg    840
gaaagctcgg ttgtgtttt atgttcgga agcatgggta gctttaacga gaaacaagtg    900
aaggagattg cggttgcgat tgaaagaagt ggacatagat ttttatggtc gcttcgtctg    960
ccgacaccga aagaaaagat agagtttccg aaagaatatg aaaacttgga agaagttctt   1020
ccagagggat tccttaaacc tacatcaagc atcgggaagg tgatcgggtg ggccccacaa   1080
```

atggcgggtgt tgtctcacc gtcagttggt gggtttgtgt cgcattgtgg ttggaactcg 1140  
acattggaga gtagtggtg tggggttccg atggcagctt ggccattata tgctgaacaa 1200  
acgttgaatg cttttctact tgtggtggaa ctgggattgg cggcggagat taggatggat 1260  
tatcggacgg atacgaaagc ggggtatgac ggtgggatgg aggtgacggt ggaggagatt 1320  
gaagatggaa ttaggaagtt gatgagtgat ggtgagatta gaaataaggt gaaagatgtg 1380  
aaagagaaga gtagagctgc ggttgttgaa ggtggatctt cttacgcac cattggaaaa 1440  
ttcatcgagc atgtatcgaa 1460

<210> 2  
<211> 490  
<212> PRT  
<213> Arabidopsis thaliana

<400> 2

Met Gly Lys Gln Glu Asp Ala Glu Leu Val Ile Ile Pro Phe Pro Phe  
1 5 10 15

Ser Gly His Ile Leu Ala Thr Ile Glu Leu Ala Lys Arg Leu Ile Ser  
20 25 30

Gln Asp Asn Pro Arg Ile His Thr Ile Thr Ile Leu Tyr Trp Gly Leu  
35 40 45

Pro Phe Ile Pro Gln Ala Asp Thr Ile Ala Phe Leu Arg Ser Leu Val  
50 55 60

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

Pro Pro Pro Met Glu Leu Phe Val Glu Phe Ala Glu Ser Tyr Ile Leu  
85 90 95

Glu Tyr Val Lys Lys Met Val Pro Ile Ile Arg Glu Ala Leu Ser Thr  
100 105 110

Leu Leu Ser Ser Arg Asp Glu Ser Gly Ser Val Arg Val Ala Gly Leu  
115 120 125

Val Leu Asp Phe Phe Cys Val Pro Met Ile Asp Val Gly Asn Glu Phe  
130 135 140

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

Met Met Lys Tyr Leu Pro Glu Arg His Arg Glu Ile Lys Ser Glu Phe  
165 170 175

Asn Arg Ser Phe Asn Glu Glu Leu Asn Leu Ile Pro Gly Tyr Val Asn  
180 185 190

Ser Val Pro Thr Lys Val Leu Pro Ser Gly Leu Phe Met Lys Glu Thr  
195 200 205

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

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

Phe Asp Arg Cys Pro Asp Asn Tyr Pro Thr Ile Tyr Pro Ile Gly Pro  
245 250 255

Ile Leu Asn Leu Glu Asn Lys Lys Asp Asp Ala Lys Thr Asp Glu Ile  
260 265 270

Met Arg Trp Leu Asn Glu Gln Pro Glu Ser Ser Val Val Phe Leu Cys  
275 280 285

Phe Gly Ser Met Gly Ser Phe Asn Glu Lys Gln Val Lys Glu Ile Ala  
290 295 300

Val Ala Ile Glu Arg Ser Gly His Arg Phe Leu Trp Ser Leu Arg Arg  
305 310 315 320

Pro Thr Pro Lys Glu Lys Ile Glu Phe Pro Lys Glu Tyr Glu Asn Leu  
325 330 335

Glu Glu Val Leu Pro Glu Gly Phe Leu Lys Arg Thr Ser Ser Ile Gly  
340 345 350

Lys Val Ile Gly Trp Ala Pro Gln Met Ala Val Leu Ser His Pro Ser  
355 360 365

Val Gly Gly Phe Val Ser His Cys Gly Trp Asn Ser Thr Leu Glu Ser  
370 375 380

Met Trp Cys Gly Val Pro Met Ala Ala Trp Pro Leu Tyr Ala Glu Gln  
385 390 395 400

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

Ile Arg Met Asp Tyr Arg Thr Asp Thr Lys Ala Gly Tyr Asp Gly Gly  
420 425 430

Met Glu Val Thr Val Glu Glu Ile Glu Asp Gly Ile Arg Lys Leu Met  
435 440 445

Ser Asp Gly Glu Ile Arg Asn Lys Val Lys Asp Val Lys Glu Lys Ser  
450 455 460

Arg Ala Ala Val Val Glu Gly Gly Ser Ser Tyr Ala Ser Ile Gly Lys  
465 470 475 480

Phe Ile Glu His Val Ser Asn Val Thr Ile  
485 490

<210> 3  
<211> 6536  
<212> DNA  
<213> Escherichia coli

<400> 3  
ctgctaacaa agcccgaaag gaagctgagt tggctgctgc caccgctgag caataactag 60  
cataaccctt tggggcctct aaacgggtct tgagggggtt tttgctgaaa ggaggaacta 120  
tatccggata tcccgcaaga ggcccggcag taccggcata accaagccta tgcctacagc 180  
atccaggggtg acggtgccga ggatgacgat gagcgcattg ttagatttca tacacgggtgc 240  
ctgactgcgt tagcaattta actgtgataa actaccgcat taaagctagc ttatcgatga 300  
taagctgtca aacatgagaa ttaattcttg aagacgaaag ggcctcgtga tacgcctatt 360  
tttatagggt aatgtcatga taataatggt ttcttagacg tcaggtggca ctttcggggg 420  
aaatgtgcgc ggaacccta tttgtttatt ttctaaata cagctcagtg gaacgaaaac 480  
tcacgttaag ggattttggt catgagatta tcaaaaagga tcttcaccta gatccttta 540  
aattaaaaat gaagttttta atcaatctaa agtatatatg agtaaacttg gtctgacagt 600

taccaatgct taatcagtga ggcacctatc tcagcgatct gtctatttcg ttcattcata 660  
 gttgcctgac tccccgtcgt gtagataact acgatacggg aggggttacc atctggcccc 720  
 agtgctgcaa tgataccgcg agaaccacgc tcaccggctc cagatttata agcaataaac 780  
 cagccagccg gaagggccga gcgcagaagt ggtcctgcaa ctttatccgc ctccatccag 840  
 tctattaatt gttgccggga agctagagta agtagttcgc cagttaatag ttgacgcaac 900  
 gttgttgcca ttgtacagg catcgtgggt tcacgctcgt cgtttggtat ggcttcattc 960  
 agtcccggtt cccaacgata aaggcgagtt acatgatccc ccatgttggtg caaaaaagcg 1020  
 gttagctcct tcggtcctcc gatcgttgtc agaagtaagt tggccgcagt gttatcactc 1080  
 atggttatgg cagcactgca taattctctt actgtcatgc catccgtaag atgcttttct 1140  
 gtgactgggtg agtactcaac caagtattc tgagaatagt gtatgcggcg accgagttgc 1200  
 tcttgcccgg cgtcaatacg ggataatacc gcgccacata gcagaacttt aaaagtgtc 1260  
 atcattggaa aacgttcttc ggggcgaaaa ctctcaagga tcttaccgct gttgagatcc 1320  
 agttcgatgt aaccactcg tgcaccaac tgatcttcag catcttttac ttcaccagc 1380  
 gtttctgggt gagcaaaaac aggaaggcaa aatgccgcaa aaaagggaat aagggcgaca 1440  
 cggaatgtt gaatactcat actcttctt ttcaatatt attgaagcat ttatcagggt 1500  
 tattgtctca tgagcggata catattgaa gtcagacccc gtagaaaaga tcaaaggatc 1560  
 ttcttgatg ccttttttc tgcgcgtaat ctgctgcttg caaacaaaaa aaccaccgct 1620  
 accagcgggtg gttgttttc cggtatcaaga gctaccaact cttttccga aggtaactgg 1680  
 cttcagcaga gcgcagatac caaatactgt ctttctagt tagccgtagt taggccacca 1740  
 cttcaagaac tctgtagcac cgcctacata cctcgtctg ctaatcctgt taccagtggc 1800  
 tgctgccagt ggcgataagt cgtgtcttac cgggttgac tcaagacgat agttaccgga 1860  
 taaggcgcag cggtcgggct gaacggggggg ttctgcaca cagcccagct tggagcgaac 1920  
 gacctacacc gaactgagat acctacagcg tgagctatga gaaagcgcca cgcttcccga 1980  
 agggagaaaag gcggacaggt atccggtaag cggcagggtc ggaacaggag agcgcacgag 2040  
 ggagcttcca gggggaaacg cctggtatct ttatgtcct gtcgggttc gccacctctg 2100  
 acttgagcgt cgattttgt gatgtctgc agggggggcg agcctatgga aaaacgccag 2160  
 caacgcggcc ttttacggt tctggcctt ttgctggcct ttgctcaca tgttcttcc 2220  
 tgcttatcc cctgattctg tggataaccg tattaccgcc ttgagtgag ctgataccgc 2280  
 tcgccgcagc cgaacgaccg agcgcagcga gtcagtgagc gaggaagcgg aagagcgct 2340

gatgcggtat ttctcctta cgcactctgt cggtatttca caccgcaatg gtgcactctc 2400  
agtaaatct gctctgatgc cgcatagtta agccagtata cactccgcta tcgctacgtg 2460  
actgggtcat ggctgcgccc cgacacccgc caacacccgc tgacgcgccc tgacgggctt 2520  
gtctgtccc ggcatccgct tacagacaag ctgtgaccgt ctccgggagc tgcatgtgtc 2580  
agaggttttc accgtcatca ccgaaacgcg cgaggcagct gcggtaaagc tcacagcgt 2640  
ggctgtgaag cgattcacag atgtctgcct gtccatccgc gtccagctcg ttgagtttct 2700  
ccagaagcgt taatgtctgg cttctgataa agcggggccat gtaagggcg gtttttct 2760  
gtttggtcac tgatgcctcc gtgtaagggg gatttctgtt catgggggta atgataccga 2820  
tgaaacgaga gaggatgctc acgatacggg ttactgatga tgaacatgcc cggttactgg 2880  
aacgttgta gggtaaacaa ctggcgggtat ggatgcggcg ggaccagaga aaaatcactc 2940  
agggtcaatg ccagcgcttc gtaatacag atgtagggtg tccacagggt agccagcagc 3000  
atcctgcgat gcagatccgg aacataatgg tgcagggcgc tgacttccgc gttccagac 3060  
ttacgaaac acggaaaccg aagaccattc atgtgttg tcaggtcgca gacgttttgc 3120  
agcagcagtc gttcacgtt cgctcgcta tcggtgattc attctgctaa ccagtaaggc 3180  
aaccgccca gcctagccgg gtctcaacg acaggagcac gatcatgcta gtcatgccc 3240  
gcgcccaccg gaaggagctg actgggttga aggtctcaa gggtatcggc cgagatccc 3300  
gtgcctaag agtgagctaa cttacattaa ttgcgttgc ctaactgcc gtttccagt 3360  
cgggaaacct gtcgtgccag ctgcattaat gaatcgcca acgcgcgggg agaggcggtt 3420  
tgctattgg gcgccagggt ggttttctt ttcaccagt agacgggcaa cagctgattg 3480  
cccttaccg cctggccctg agagagttgc agcaagcggc ccacgtggt ttgcccagc 3540  
aggcgaaaat cctgtttgat ggtggttaac ggcgggatat aacatgagct gtcttcgta 3600  
tcgtctatc cactaccga gatatccga ccaacgcga gcccgactc ggtaatggcg 3660  
cgcattgcgc ccagcgcct ctgacgttg gcaaccagca tcgcagtggg aacgatgcc 3720  
tcattcaga ttgcatggt ttgtgaaa ccggacatgg cactccagtc gccttccgt 3780  
tcgctatcg gctgaatttg attgcagtg agatattat gccagccagc cagacgcaga 3840  
cgcgccgaga cagaactta tgggcccgt aacagcgca tttgctggtg accaatgcg 3900  
accagatgt ccacgccag tcgctaccg tctcatggg agaaaataat actgttgatg 3960  
ggtgtctgt cagagacac aagaataac gccggaacat tagtgcaggc agctccaca 4020  
gcaatggcat cctggtcatc cagcggtatg ttaatgatca gccactgac gcgttgcgcg 4080

agaagattgt gcaccgccgc ttacaggct tcgacgccgc ttcgttctac catcgacacc 4140  
 accacgctgg caccagttg atcggcgca gatttaatcg ccgcgacaat ttgcgacggc 4200  
 gcgtgcaggg ccagactgga ggtggcaacg ccaatcagca acgactgttt gcccgccagt 4260  
 tgttgccca cgcggttggg aatgtaattc agctccgcca tcgccgttc cactttttcc 4320  
 cgcgttttcg cagaaacgtg gctggcctgg ttcaccacgc gggaaacggg ctgataagag 4380  
 acaccggcat actctcgac atcgataaac gtactgggt tcacattcac caccctgaat 4440  
 tgactctctt ccgggcgcta tcatgccata ccgcgaaagg tttgcgcca ttcgatgggtg 4500  
 tccgggatct cgacgtctc cttatgcga ctctgcatt aggaagcagc ccagtagtag 4560  
 gttgaggccg ttgagcaccg ccgccgcaag gaatggtgca tgcaaggaga tggcgcccaa 4620  
 cagtcccccg gccacggggc ctgccacat acccaccgcg aaacaagcgc tcatgagccc 4680  
 gaagtggcga gcccgatctt ccccatcggg gatgtcggcg atataggcgc cagcaaccgc 4740  
 acctgtggcg ccggtgatgc cggccacgat gcgtccggcg tagaggatcg agatctcgat 4800  
 cccgcgaaat taatacgact cactataggg ggaattgtga gcggataaca atttcctct 4860  
 agaaataatt ttgtttaaac tttaagaagg agatatacat atgcaccatc atcatcatca 4920  
 ttctggatcc atgggggaagc aagaagatgc agagctcgtc atcatacctt tccctttctc 4980  
 cggacacatt ctgcacaaca tcgaactcgc caaacgtctc ataagtcaag acaatctctg 5040  
 gatccacacc atcaccatcc tctattgggg attacctttt attctcaag ctgacacaat 5100  
 cgctttctc cgatccctag tcaaaaatga gcctcgtatc cgtctcgta cgttgcccga 5160  
 agtccaagac cctccaccaa tggaactctt tgtggaattt gccgaatctt acattcttga 5220  
 atacgtcaag aaaatggttc ccatcatcag agaagctctc tccactctct tgttctccg 5280  
 cgatgaatcg ggttcagtc gtgtggctgg attggttctt gacttctct gcgtccctat 5340  
 gatcgatgta ggaaacgagt ttaatctccc ttcttacatt ttcttgacgt gtagegcagg 5400  
 gttcttgggt atgatgaagt atcttcaga gagacaccgc gaaatcaaat cggaattcaa 5460  
 ccggagcttc aacgaggagt tgaatctcat tcttggttat gtcaactctg ttctactaa 5520  
 ggttttgccg tcaggctctat tcataaaga gacctacgag ccttggtcgc aactagcaga 5580  
 gaggtttctt gaagctaagg gtattttggt taattcatac acagctctcg agccaaacgg 5640  
 ttttaaatat ttcgatcgtt gtccggataa ctaccaacc attacccaa tcgggccccat 5700  
 ttgaacctt gaaaacaaaa aagacgatgc taaaaccgac gagattatga ggtgggttaa 5760  
 tgagcaaccg gaaagctcgg ttgtgtttt atgttcgga agcatgggta gcttaacga 5820

gaaacaagtg aaggagattg cggttgcgat tgaaagaagt ggacatagat tttatggtc 5880  
gcttcgtcgt ccgacaccga aagaaaagat agagtttccg aaagaatatg aaaacttgga 5940  
agaagttctt ccagagggat tccttaaacg tacatcaagc atcgggaagg tgatcgggtg 6000  
ggccccacaa atggcgggtg tgtctaccc gtcagttggt gggtttgtg cgcattgtgg 6060  
ttggaactcg acattggaga gtatgtggtg tggggtccg atggcagctt ggccattata 6120  
tgctgaacaa acgttgaatg ctttctact tgtgtggaa ctgggattgg cggcggagat 6180  
taggatggat tatcggacgg atacgaaagc ggggtatgac ggtgggatgg aggtgacggt 6240  
ggaggagatt gaagatggaa ttaggaagtt gatgagtgat ggtgagatta gaaataaggt 6300  
gaaagatgtg aaagagaaga gtagagctgc ggttgttgaa ggtggatctt cttacgcatc 6360  
cattggaaaa ttcatcgagc atgtatcga tgttacgatt taaggtcgac aagcttggcg 6420  
gccgcgccac gcgatcgctg acgtcggtag cctcgagtct ggtaaagaaa ccgctgctgc 6480  
gaaatttgaa cgccagcaca tggactcgtc tactagcgca gcttaattaa cctagg 6536