SEQUENCE LISTING

<110> Lonza Ltd.

<120> CONSTITUTIVE PROMOTER

<130> LO003P

<160> 24

<170> PatentIn version 3.5

<210> 1
<211> 985
<212> DNA
<213> Pichia pastoris

<400> 1
agggcatcat tgaggtttcc acaaaaggaa gaaacatgga tccagagaca tcaacagaga 60

ggaaagcggg tagtgaagcc gaagccacaa cacagcccga tttggaaggg agttcacaat 120

caaggtgagt ccagccattt tttttctttt ttttttttt attcaggtga acccacctaa 180

ctatttttaa ctgggatcca gtgagctcgc tgggtgaaag ccaaccatct tttgtttcgg 240

ggaaccgtgc tcgccccgta aagttaattt ttttttcccg cgcagcttta atctttcggc 300

agagaaggcg ttttcatcgt agcgtgggaa cagaataatc agttcatgtg ctatacaggc 360

acatggcagc agtcactatt ttgcttttta accttaaagt cgttcatcaa tcattaactg 420

accaatcaga ttttttgcat ttgccactta tctaaaaata cttttgtatc tcgcagatac 480

gttcagtggt ttccaggaca acacccaaaa aaaggtatca atgccactag gcagtcggtt 540

ttatttttgg tcacccacgc aaagaagcac ccacctcttt taggttttaa gttgtgggaa 600

cagtaacacc gcctagagct tcaggaaaaa ccagtacctg tgaccgcaat tcaccatgat 660

gcagaatgtt aatttaaacg agtgccaaat caagatttca acagacaaat caatcgatcc 720

atagttaccc attccagcct tttcgtcgtc gagcctgctt cattcctgcc tcaggtgcat 780

aactttgcat gaaaagtcca gattagggca gattttgagt ttaaaatagg aaatataaac 840

aaatataccg cgaaaaaggt ttgtttatag cttttcgcct ggtgccgtac ggtataaata 900

catactctcc tccccccccc ggttctcttt ttcttttgtt acttacattt taccgttccg 960

tcactcgctt cactcaacaa caaaa 985

<210> 2
<211> 1488
<212> DNA
<213> Pichia pastoris

<400> 2
gatagttcta gaagacctgg cgtcgctggt caactactcg tttcacaagt tgacaaagac 60

ttttaccaag agaagagcag ttgtcaccga ccacaataac aacctggaag ccgagaaaaa 120

acttggaatc tccaaggtga gactgcctag aaatccgtac tctgcggccg atcgaagact 180

gcatttcctc caagaattga tgctcatggt ctcatcttac aatcgcacac acaacagtgt 240

cagtcttctt tgcggtccct tgaacacaac caaccgaaag gtggggaagt ctaatgtcac 300

gcaaacgata ttgcaaccaa tgttgggctc tactggcgtc tggctgcatc aaatagctga 360

tcggttcgta atcttcaaag attggtgtag gacgaacgag tctgctgggc tacaagtttt 420

gccccatatc gctgttcaag ccaacccgcg gaatcccaaa acaccccatc cgacaaaagt 480

tgttgttttc agcagatcta gggagggcat cattgaggtt tccacaaaag gaagaaacat 540

ggatccagag acatcaacag agaggaaagc gggtagtgaa gccgaagcca caacacagcc 600

cgatttggaa gggagttcac aatcaaggtg agtccagcca ttttttttct ttttttttt 660

tttattcagg tgaacccacc taactatttt taactgggat ccagtgagct cgctgggtga 720

aagccaacca tcttttgttt cggggaaccg tgctcgcccc gtaaagttaa ttttttttc 780

ccgcgcagct ttaatctttc ggcagagaag gcgttttcat cgtagcgtgg gaacagaata 840

atcagttcat gtgctataca ggcacatggc agcagtcact attttgcttt ttaaccttaa 900

agtcgttcat caatcattaa ctgaccaatc agatttttg catttgccac ttatctaaaa 960

atacttttgt atctcgcaga tacgttcagt ggtttccagg acaacaccca aaaaaaggta 1020

tcaatgccac taggcagtcg gttttatttt tggtcaccca cgcaaagaag cacccacctc 1080

ttttaggttt taagttgtgg gaacagtaac accgcctaga gcttcaggaa aaaccagtac 1140

ctgtgaccgc aattcaccat gatgcagaat gttaatttaa acgagtgcca aatcaagatt 1200

tcaacagaca aatcaatcga tccatagtta cccattccag ccttttcgtc gtcgagcctg 1260

cttcattcct gcctcaggtg cataactttg catgaaaagt ccagattagg gcagattttg 1320

agtttaaaat aggaaatata aacaaatata ccgcgaaaaa ggtttgttta tagcttttcg 1380

cctggtgccg tacggtataa atacatactc tcctcccccc cctggttctc tttttctttt 1440

gttacttaca ttttaccgtt ccgtcactcg cttcactcaa caacaaaa 1488

<210> 3
<211> 767
<212> DNA
<213> Pichia pastoris

<400> 3
agccaaccat cttttgtttc ggggaaccgt gctcgccccg taaagttaat ttttttttcc 60

cgcgcagctt taatctttcg gcagagaagg cgttttcatc gtagcgtggg aacagaataa 120

tcagttcatg tgctatacag gcacatggca gcagtcacta ttttgctttt taaccttaaa 180

gtcgttcatc aatcattaac tgaccaatca gatttttgc atttgccact tatctaaaaa 240

tacttttgta tctcgcagat acgttcagtg gtttccagga caacacccaa aaaaaggtat 300

caatgccact aggcagtcgg ttttatttt ggtcacccac gcaaagaagc acccacctct 360

tttaggtttt aagttgtggg aacagtaaca ccgcctagag cttcaggaaa aaccagtacc 420

tgtgaccgca attcaccatg atgcagaatg ttaatttaaa cgagtgccaa atcaagattt 480

caacagacaa atcaatcgat ccatagttac ccattccagc cttttcgtcg tcgagcctgc 540

ttcattcctg cctcaggtgc ataactttgc atgaaaagtc cagattaggg cagattttga 600

gtttaaaata ggaaatataa acaaatatac cgcgaaaaag gtttgtttat agcttttcgc 660

ctggtgccgt acggtataaa tacatactct cctccccccc ctggttctct ttttcttttg 720

ttacttacat tttaccgttc cgtcactcgc ttcactcaac aacaaaa 767

<210> 4
<211> 500
<212> DNA
<213> Pichia pastoris

<400> 4
gtggtttcca ggacaacacc caaaaaaagg tatcaatgcc actaggcagt cggttttatt 60

tttggtcacc cacgcaaaga agcacccacc tcttttaggt tttaagttgt gggaacagta 120

acaccgccta gagcttcagg aaaaaccagt acctgtgacc gcaattcacc atgatgcaga 180

atgttaattt aaacgagtgc caaatcaaga tttcaacaga caaatcaatc gatccatagt 240

tacccattcc agccttttcg tcgtcgagcc tgcttcattc ctgcctcagg tgcataactt 300

tgcatgaaaa gtccagatta gggcagattt tgagtttaaa ataggaaata taaacaaata 360

taccgcgaaa aaggtttgtt tatagctttt cgcctggtgc cgtacggtat aaatacatac 420

tctcctcccc cccctggttc tctttttctt ttgttactta cattttaccg ttccgtcact 480

cgcttcactc aacaacaaaa 500

<210> 5
<211> 344
<212> DNA
<213> Pichia pastoris

<400> 5
gaccgcaatt caccatgatg cagaatgtta atttaaacga gtgccaaatc aagatttcaa 60

cagacaaatc aatcgatcca tagttaccca ttccagcctt ttcgtcgtcg agcctgcttc 120

attcctgcct caggtgcata actttgcatg aaaagtccag attagggcag attttgagtt 180

taaaatagga aatataaaca aatataccgc gaaaaaggtt tgtttatagc ttttcgcctg 240

gtgccgtacg gtataaatac atactctcct ccccccccctg gttctctttt tcttttgtta 300

cttacatttt accgttccgt cactcgcttc actcaacaac aaaa 344

<210> 6
<211> 234
<212> DNA
<213> Pichia pastoris

<400> 6
agcctgcttc attcctgcct caggtgcata actttgcatg aaaagtccag attagggcag 60

attttgagtt taaaatagga aatataaaca aatataccgc gaaaaaggtt tgtttatagc 120

ttttcgcctg gtgccgtacg gtataaatac atactctcct ccccccccctg gttctctttt 180

tcttttgtta cttacatttt accgttccgt cactcgcttc actcaacaac aaaa 234

<210> 7
<211> 138

<212> DNA
<213> Pichia pastoris

<400> 7
ccgcgaaaaa ggtttgttta tagcttttcg cctggtgccg tacggtataa atacatactc 60

tcctcccccc cctggttctc tttttctttt gttacttaca ttttaccgtt ccgtcactcg 120

cttcactcaa caacaaaa 138

<210> 8
<211> 85
<212> DNA
<213> Pichia pastoris

<400> 8
catactctcc tccccccccc ggttctcttt ttcttttgtt acttacattt taccgttccg 60

tcactcgctt cactcaacaa caaaa 85

<210> 9
<211> 408
<212> DNA
<213> Pichia pastoris

<400> 9
atgcaattct ctatcgtcgc tactttggct cttgctggtt ccgctctggc tgcttactct 60

aacgtaactt acacttacga gactaccatc accgatgttg tcaccgagct caccacttac 120

tgcccagagc caaccacctt cgttcacaag aacaagacca tcactgtgac cgccccaacc 180

actttgacca tcactgactg tccttgcacc atctccaaga ccaccaagat caccactgat 240

gttccaccaa ccacccactc caccccacac accaccacca ctcacgtgcc atctacctct 300

accccagctc caacccactc tgtttctacc atctctcacg gtggtgctgc taaggctggt 360

gttgctggtt tggccggtgt tgctgctgcc gctgcttact tcttgtaa 408

<210> 10
<211> 135
<212> PRT
<213> Pichia pastoris

<400> 10

Met Gln Phe Ser Ile Val Ala Thr Leu Ala Leu Ala Gly Ser Ala Leu
1 5 10 15

Ala Ala Tyr Ser Asn Val Thr Tyr Thr Tyr Glu Thr Thr Ile Thr Asp
20 25 30

Val Val Thr Glu Leu Thr Thr Tyr Cys Pro Glu Pro Thr Thr Phe Val
35 40 45

His Lys Asn Lys Thr Ile Thr Val Thr Ala Pro Thr Thr Leu Thr Ile
50 55 60

Thr Asp Cys Pro Cys Thr Ile Ser Lys Thr Thr Lys Ile Thr Thr Asp
65 70 75 80

```
Val Pro Pro Thr Thr His Ser Thr Pro His Thr Thr Thr Thr His Val
                85                  90                  95

Pro Ser Thr Ser Thr Pro Ala Pro Thr His Ser Val Ser Thr Ile Ser
            100                 105                 110

His Gly Gly Ala Ala Lys Ala Gly Val Ala Gly Leu Ala Gly Val Ala
        115                 120                 125

Ala Ala Ala Ala Tyr Phe Leu
    130                 135
```

<210> 11
<211> 402
<212> DNA
<213> Pichia pastoris

<400> 11

```
atgcaattct ctatcgtcgc tactttggct cttgctggtt ccgctctggc tgcttactct       60

aacgtaactt acacttacga gactaccatc accgatgttg tcactgagtt gaccacttac      120

tgcccagagc caaccacctt tgtttacaag aacaagacca tcaccgtgac tgagccaacc      180

actttgacca tcactgactg cccatgcacc atctcaaaga ccaccaagat caccactgat      240

gttccaccaa ccacccacgt caccccatcc accactcacg tgccatctac ctctacccca      300

gctccaaccc actctgtttc taccatctct cacggtggtg ctgctaaggc tggtgttgct      360

ggtttggccg gtgttgctgc tgccgctgct tacttcttgt aa                         402
```

<210> 12
<211> 133
<212> PRT
<213> Pichia pastoris

<400> 12

```
Met Gln Phe Ser Ile Val Ala Thr Leu Ala Leu Ala Gly Ser Ala Leu
1               5                   10                  15

Ala Ala Tyr Ser Asn Val Thr Tyr Thr Tyr Glu Thr Thr Ile Thr Asp
            20                  25                  30

Val Val Thr Glu Leu Thr Thr Tyr Cys Pro Glu Pro Thr Thr Phe Val
        35                  40                  45

Tyr Lys Asn Lys Thr Ile Thr Val Thr Glu Pro Thr Thr Leu Thr Ile
    50                  55                  60

Thr Asp Cys Pro Cys Thr Ile Ser Lys Thr Thr Lys Ile Thr Thr Asp
65                  70                  75                  80

Val Pro Pro Thr Thr His Val Thr Pro Ser Thr Thr His Val Pro Ser
                85                  90                  95
```

Thr Ser Thr Pro Ala Pro Thr His Ser Val Ser Thr Ile Ser His Gly
100 105 110

Gly Ala Ala Lys Ala Gly Val Ala Gly Leu Ala Gly Val Ala Ala Ala
115 120 125

Ala Ala Tyr Phe Leu
130

<210> 13
<211> 491
<212> DNA
<213> Pichia pastoris

<400> 13
cttttttgta gaaatgtctt ggtgtcctcg tccaatcagg tagccatctc tgaaatatct 60

ggctccgttg caactccgaa cgacctgctg gcaacgtaaa attctccggg gtaaaactta 120

aatgtggagt aatggaacca gaaacgtctc ttcccttctc tctccttcca ccgcccgtta 180

ccgtccctag gaaattttac tctgctggag agcttcttct acggcccccc tgcagcaatg 240

ctcttcccag cattacgttg cgggtaaaac ggaggtcgtg tacccgacct agcagcccag 300

ggatggaaaa gtcccggccg tcgctggcaa taatagcggg cggacgcatg tcatgagatt 360

attggaaacc accagaatcg aatataaaag gcgaacacct ttcccaattt tggtttctcc 420

tgacccaaag actttaaatt taatttattt gtccctattt caatcaattg aacaactatc 480

acctgcaggc c 491

<210> 14
<211> 33
<212> DNA
<213> artificial

<220>
<223> Primer

<400> 14
gatagggccc cagggcatca ttgaggtttc cac 33

<210> 15
<211> 36
<212> DNA
<213> artificial

<220>
<223> Primer

<400> 15
gatacctgca ggttttgttg ttgagtgaag cgagtg 36

<210> 16
<211> 33
<212> DNA
<213> artificial

<220>
<223> Primer

<400> 16
gatagggccc cagggcatca ttgaggtttc cac 33

<210> 17
<211> 35
<212> DNA
<213> artificial

<220>
<223> Primer

<400> 17
gatagggccc gatagttcta gaagacctgg cgtcg 35

<210> 18
<211> 31
<212> DNA
<213> artificial

<220>
<223> Primer

<400> 18
gatagggccc agccaaccat cttttgtttc g 31

<210> 19
<211> 31
<212> DNA
<213> artificial

<220>
<223> Primer

<400> 19
gatagggccc gtggtttcca ggacaacacc c 31

<210> 20
<211> 31
<212> DNA
<213> artificial

<220>
<223> Primer

<400> 20
gatagggccc gaccgcaatt caccatgatg c 31

<210> 21
<211> 29
<212> DNA
<213> artificial

<220>
<223> Primer

<400> 21
gatagggccc agcctgcttc attcctgcc 29

<210> 22

<211> 33
<212> DNA
<213> artificial

<220>
<223> Primer

<400> 22
gatagggccc ccgcgaaaaa ggtttgttta tag 33

<210> 23
<211> 31
<212> DNA
<213> artificial

<220>
<223> Primer

<400> 23
gatagggccc catactctcc tccccccccc g 31

<210> 24
<211> 345
<212> DNA
<213> artificial

<220>
<223> translational fusion partner

<400> 24
ggccattacg gccgggggac ttacatttta ccgttccgtc actcgcttca ctcaacaaca 60

aaaatgcaat tctctatcgt cgctactttg gctcttgctg gttccgctct ggctgcttac 120

tctaacgtaa cttacactta cgagactacc atcaccgatg ttgtcaccga gctcaccact 180

tactgcccag agccaaccac cttcgttcac aagaacaaga ccatcactgt gaccgcccca 240

accactttga ccatcactga ctgtccttgc accatctcca agaccaccaa gatcaccact 300

gatgttccac caaccaccca ctccacccca ctggccgcct cggcc 345