

F14W5643.01SG_SequenceListing.ST25
SEQUENCE LISTING

<110> Lonza Ltd.

<120> Regulatable promoter

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<160> 46

<170> PatentIn version 3.3

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<213> Pichia pastoris

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F14W5643.01SG_SequenceListing.ST25

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F14W5643.01SG_SequenceListing.ST25

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<213> Pichia pastoris

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aaggctgtcg gattggacga ttctttccaa acttctatca ttcttggtgt tgtcaatttt 1080
gcttccacat tcctagggtat ctacaccatg gataaatttg gtagaagaag aacactttta 1140
ggaggttctg gagccatggt tggttggttg gtcattttca gttccgttgg tgtcaagtct 1200
ctttatgaga acggttaagg tgatccatcc aaaccagcag gtaacgcat gattgtcttc 1260
acctgtctgt tcattttctt ctttgcattg acctgggctc cagggtgttt cgtcgttgtg 1320
tctgaaacct acccatttag aattagatcc aagggtatgg ccatcgctca aggttccaat 1380
tggctttggg gtttcctcat tgcttcttc actccattta tctcaggtgc cattgatttc 1440
gcctacggtt acgtctttat gggatgtact ctgttcgcct tcttctttgt gtacttcttc 1500
gttcctgaaa ccaaggtctt gtcgctggaa gacgttgatg aagtctatga gaaccttacc 1560
ttcgggaagag catatgcata cagccacacg attaaagaca agggcgccct ataa 1614

<210> 12

F14W5643.01SG_SequenceListing.ST25

<211> 1032
 <212> DNA
 <213> *Pichia pastoris*

<400> 12
 atggccctat ctcctaccta tcagggctac atatctacca ctggcgacgc gttgatcgtg 60
 atccaggcag ctctaaataa ccatttgaat cttcttcccc gaagaccaag agaaagagag 120
 cgagatgggc taatacgatc aggtaacgta tttgtttttg tcgagcaacg gtctcatatc 180
 aaacgatgga ccgatgggat cccctgggtc ccatctagag tccttggaag gttcttggtg 240
 tatcgggaaac tggacaagga taccctcaaa aactcgcaaa gtgacgaaga tactgaggag 300
 gggagaaaaga ggcgaaagac ttctgtggat gtaaccgatc caaataccag gcagttgggtg 360
 ggatcattgg tgacttccta tgacttcaaa gaggatggac ttattaaaaa aacactctcc 420
 ttgactttcc agaccgggtg taatgaagaa agggaaacag tgcacttgat tagttattat 480
 actccggaag atgtaacgaa ccatcgtttg aacaggccgt ctgacaatcc atatctggcc 540
 aatatcactg tttcagagtc attattgact gccttgagag agagtaccct tggaggaaga 600
 gcaacgtctg atgacgagct ttcttttagtc agaagtaact cgttagagta ccaagaggta 660
 ccaatgaaca tatctatgtc ttaccttta tcaactccac tttccttgaa cacaggagta 720
 aactcaacta cccagctgca acagcaacaa ctacaacaac aacaacagca acagcaacag 780
 cagcagcaac aacagcagca acaacagcaa ccggtagcat cccttccaaa atttgatgga 840
 tcctttctat tacaacaggg tgtaattcca gttcctcatt tcatggacca aaaaatggga 900
 agtagcaatt cgtggattaa caattggtt cgtccaaatt cgtcagaatc aaatgggcta 960
 tcggttatcg gacctacaaa gggatatgac gaacaaagtc cagcaacgag ttatactttg 1020
 aatgaacggt ga 1032

<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 acggccccct tgcagcaatg 240
 ctcttcccag cattacgttg cgggtaaaac ggaggtcgtg taccgacct agcagcccag 300
 ggatggaaaa gtcccggccg tcgctggcaa taatagcggg cggacgcatg tcatgagatt 360
 attggaacc accagaatcg aatataaaag gcgaacacct ttcccaattt tggtttctcc 420
 tgacccaaag actttaaatt taatttatgt gtccctatgt caatcaattg aacaactatc 480
 acctgcaggc c 491

<210> 14

<211> 34
 <212> DNA
 <213> artificial

 <220>
 <223> Primer

 <400> 14
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<210> 15
 <211> 39
 <212> DNA
 <213> artificial

 <220>
 <223> Primer

 <400> 15
 gatacctgca ggaagggtgg aattttaagg atcttttat 39

<210> 16
 <211> 36
 <212> DNA
 <213> artificial

 <220>
 <223> Primer

 <400> 16
 gatagggcc cagcaatcca gtaacctttt ctgaat 36

<210> 17
 <211> 36
 <212> DNA
 <213> artificial

 <220>
 <223> Primer

 <400> 17
 gatacctgca ggttgagttc aataaattgt ccggga 36

<210> 18
 <211> 35
 <212> DNA
 <213> artificial

 <220>
 <223> Primer

 <400> 18
 gatagggcc tggactgttc aatttgaagt cgatg 35

<210> 19
 <211> 37
 <212> DNA
 <213> artificial

 <220>
 <223> Primer

 <400> 19

gatacctgca ggggataaaag gtaagggaaa aaagcaa 37

<210> 20
 <211> 36
 <212> DNA
 <213> artificial

<220>
 <223> Primer

<400> 20
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<210> 21
 <211> 36
 <212> DNA
 <213> artificial

<220>
 <223> Primer

<400> 21
 gatacctgca ggcttttctt tgggcaagga aaaatc 36

<210> 22
 <211> 39
 <212> DNA
 <213> artificial

<220>
 <223> Primer

<400> 22
 gatagggccc aattgattaa gttcagtga atttcaaac 39

<210> 23
 <211> 42
 <212> DNA
 <213> artificial

<220>
 <223> Primer

<400> 23
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<210> 24
 <211> 33
 <212> DNA
 <213> artificial

<220>
 <223> Primer

<400> 24
 gatagggccc ctgcacaacc attgccagta agg 33

<210> 25
 <211> 40
 <212> DNA
 <213> artificial

<220>
 <223> Primer
 <400> 25
 gataacctgca ggTTTTtaga agaggagaa cttagattgg 40
 <210> 26
 <211> 24
 <212> DNA
 <213> artificial
 <220>
 <223> Primer
 <400> 26
 cctgaggctt tgTccaccc atct 24
 <210> 27
 <211> 30
 <212> DNA
 <213> artificial
 <220>
 <223> Primer
 <400> 27
 ggaacatagt agTaccaccg gacataacga 30
 <210> 28
 <211> 22
 <212> DNA
 <213> artificial
 <220>
 <223> Primer
 <400> 28
 tcgccgacca ctaccagcag aa 22
 <210> 29
 <211> 23
 <212> DNA
 <213> artificial
 <220>
 <223> Primer
 <400> 29
 accatgtgat cgcgcttctc gtt 23
 <210> 30
 <211> 24
 <212> DNA
 <213> artificial
 <220>
 <223> Primer
 <400> 30
 cctgaggctt tgTccaccc atct 24
 <210> 31

<211> 30
 <212> DNA
 <213> artificial

 <220>
 <223> Primer

 <400> 31
 ggaacatagt agtaccaccg gacataacga 30

 <210> 32
 <211> 28
 <212> DNA
 <213> artificial

 <220>
 <223> Primer

 <400> 32
 aaacctagga aaagtgggca gcaaattgt 28

 <210> 33
 <211> 29
 <212> DNA
 <213> artificial

 <220>
 <223> Primer

 <400> 33
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 <210> 34
 <211> 34
 <212> DNA
 <213> artificial

 <220>
 <223> Primer

 <400> 34
 gataggggccc caaacatttg ctccccctag tctc 34

 <210> 35
 <211> 39
 <212> DNA
 <213> artificial

 <220>
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 <400> 35
 gataggggccc ggaatctgta ttgtagaaa gaacgagag 39

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

 <220>
 <223> Primer

 <400> 36

gatagggccc ccatattcag taggtgtttc ttgcac 36

<210> 37
 <211> 36
 <212> DNA
 <213> artificial

<220>
 <223> Primer

<400> 37
 gatagggccc ctgcagatag acttcaagat ctcagg 36

<210> 38
 <211> 32
 <212> DNA
 <213> artificial

<220>
 <223> Primer

<400> 38
 gatagggccc gaccccgttt tcgtgacaaa tt 32

<210> 39
 <211> 37
 <212> DNA
 <213> artificial

<220>
 <223> Primer

<400> 39
 gatagggccc ccggataaga gaattttgtt tgattat 37

<210> 40
 <211> 31
 <212> DNA
 <213> artificial

<220>
 <223> Primer

<400> 40
 gatagggccc gcctgctcca tatttttccg g 31

<210> 41
 <211> 859
 <212> DNA
 <213> artificial

<220>
 <223> promoter variant

<400> 41
 ggaatctgta ttgttagaaa gaacgagagt tttttacggc gccgcatat tgggccgtgt 60

gaaaacagct tgaaaccca ctactttcaa aggttctgtt gctatacacg aaccatgttt 120

aaccaacctc gcttttgact tgactgaagt catcggttaa caatcaagta ccctagtctg 180

tctgaatgct cttttccata ttcagtaggt gtttcttgca cttttgcatg cactgcggaa 240

F14W5643.01SG_SequenceListing.ST25

gaattagcca atagcgcggtt tcatatgcgc ttttaccccc tcttttgtca agcgcaaat	300
gcctgtaaga tttggtgggg gtgtgagccg ttagctgaag tacaacaggc taattccctg	360
aaaaaactgc agatagactt caagatctca gggattccca ctatttggtg ttctgatatg	420
tttttcctga tatgcatcaa aactctaata taaaacctga atctccgcta tttttttttt	480
ttttttgatg accccgtttt cgtgacaaat taatttccaa cggggtcttg tccggataag	540
agaattttgt ttgattatcc gttcggataa atggacgcct gctccatatt tttccgggta	600
ttaccccacc tggaagtgcc cagaattttc cggggattac ggataatacg gtgggtctgga	660
ttaattaata cgccaagtct tacattttgt tgcagtctcg tgcgagtatg tgcaataata	720
aacaagatga gccaatattt tggattagtt gcagcttgac cccgccatag ctaggcatag	780
ccaagtgcga tgggtgttag atgatgcact tggatgcagt gagtttttga gtataaaaga	840
tccttaaaat tccaccctt	859

<210> 42
 <211> 664
 <212> DNA
 <213> artificial

<220>
 <223> promoter variant

<400> 42 ccatattcag taggtgtttc ttgcactttt gcatgcactg cggaagaatt agccaatagc	60
gcgtttcata tgcgctttta cccctctttt tgtcaagcgc aaaatgcctg taagatttgg	120
tgggggtgtg agccggttagc tgaagtacaa caggctaatt ccctgaaaaa actgcagata	180
gacttcaaga tctcagggat tcccactatt tgggtattctg atatgttttt cctgatatgc	240
atcaaaactc taatctaaaa cctgaatctc cgctattttt tttttttttt tgatgacccc	300
gttttcgtga caaattaatt tccaacgggg tcttgtccgg ataagagaat tttgtttgat	360
tatccgttcg gataaatgga cgctgctcc atatttttcc gggtattacc ccacctggaa	420
gtgcccagaa ttttccgggg attacggata atacggtggg ctggattaat taatacgcca	480
agtcttacat tttgttgagc tctcgtgcga gtatgtgcaa taataaaca gatgagccaa	540
tttattggat tagttgcagc ttgacccgc catagctagg catagccaag tgctatgggt	600
gttagatgat gcacttggat gcagtgcgtt ttggagtata aaagatcctt aaaattccac	660
cctt	664

<210> 43
 <211> 493
 <212> DNA
 <213> artificial

<220>
 <223> promoter variant

<400> 43 ctgcagatag acttcaagat ctgaggatt cccactattt ggtattctga tatgtttttc	60
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F14W5643.01SG_SequenceListing.ST25

ctgatatgca tcaaaactct aatcctaaaac ctgaatctcc gctatTTTTT tTTTTTTTT	120
gatgacccccg ttttcgtgac aaattaattt ccaacggggt cttgtccgga taagagaatt	180
ttgtttgatt atccgttcgg ataaatggac gcctgctcca tatttttccg gttattaccc	240
cacctggaag tgcccagaat tttccgggga ttacggataa tacggtggtc tggattaatt	300
aatacgccaa gtcttacatt ttgttgagcgt ctcgtgagag tatgtgcaat aataaacaag	360
atgagccaat ttattggatt agttgcagct tgaccccgcc atagctaggc atagccaagt	420
gctatgggtg ttagatgatg cacttgatg cagtgaagtt tggagtataa aagatcctta	480
aaattccacc ctt	493

<210> 44
 <211> 370
 <212> DNA
 <213> artificial

<220>
 <223> promoter variant

<400> 44 gaccccgttt tcgtgacaaa ttaatttcca acgggggtctt gtccggataa gagaattttg	60
tttgattatc cggttcggata aatggacgcc tgctccatat tttccgggtt attacccac	120
ctggaagtgc ccagaatttt ccgggggatta cggataatac ggtggtcttgg attaattaat	180
acgccaagtc ttacattttg ttgcagcttc gtgcgagtat gtgcaataat aaacaagatg	240
agccaattta ttggattagt tgcagcttga ccccgccata gctaggcata gccaaagtgt	300
atgggtgtta gatgatgcac ttggatgcag tgagttttgg agtataaaag atccttaaaa	360
ttccaccctt	370

<210> 45
 <211> 328
 <212> DNA
 <213> artificial

<220>
 <223> promoter variant

<400> 45 ccggataaga gaattttggt tgattatccg ttcggataaa tggacgcctg ctccatattt	60
ttccgggttat taccacacct ggaagtgcc agaattttcc ggggattacg gataatacgg	120
tggtctggat taattaatac gccaaagtctt acattttgtt gcagtctcgt gcgagtatgt	180
gcaataataa acaagatgag ccaatttatt ggattagttg cagcttgacc ccgccatagc	240
taggcatagc caagtgtcat ggggtgttaga tgatgcactt ggatgcagtg agttttggag	300
tataaaagat ccttaaaatt ccaccctt	328

<210> 46
 <211> 283
 <212> DNA
 <213> artificial

F14W5643.01SG_SequenceListing.ST25

<220>

<223> promoter variant

<400> 46

gcctgctcca tatttttccg gttattaccc cacctggaag tgcccagaat tttccgggga	60
ttacggataa tacggtgggc tggattaatt aatacgccaa gtcttacatt ttgttgcagt	120
ctcgtgcgag tatgtgcaat aataaacaag atgagccaat ttattggatt agttgcagct	180
tgaccccgcc atagctaggc atagccaagt gctatgggtg ttagatgatg cacttggatg	240
cagtgagttt tggagtataa aagatcctta aaattccacc ctt	283