SEQUENCE LISTING

<110> LanzaTech New Zealand Limited
Walker, David Jeffrey Fraser
Koepke, Michael

<120> METHOD OF PRODUCING A RECOMBINANT MICROORGANISM

<130> LT099WO1

<150> US 61/932,737
<151> 2014-01-28

<160> 13

<170> PatentIn version 3.5

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Arg Val Lys Tyr Leu Gly Lys Lys Gly Glu Leu Thr Lys Ile Leu Arg
        35                  40                  45

Gly Met Lys Asp Leu Ser Lys Glu Glu Arg Pro Ala Ile Gly Lys Leu
    50                  55                  60

Ala Asn Glu Val Arg Ser Thr Leu Glu Asn Ala Ile Glu Glu Ala Ser
65                  70                  75                  80

Lys Lys Ile Lys Ser Ser Ala Ile Gln Ala Lys Leu Gln Asn Glu Thr
                85                  90                  95

Ile Asp Ile Thr Met Pro Gly Ile Lys Gln Thr Val Gly Lys Arg His
            100                 105                 110

Pro Leu Glu Gln Thr Leu Glu Glu Met Lys Gln Ile Phe Ile Ser Met
        115                 120                 125

Gly Phe Thr Ile Glu Glu Gly Pro Glu Val Glu Lys Asp Tyr Tyr Asn
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Phe Glu Ala Leu Asn Ile Pro Lys Asn His Pro Ala Arg Gly Glu Gln
145                 150                 155                 160

Asp Thr Phe Tyr Ile Asn Asp Asn Val Val Leu Arg Thr Gln Thr Ser
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Pro Ile Gln Val Arg Thr Met Glu Lys Gln Lys Pro Pro Ile Lys Met
            180                 185                 190

Ile Ser Pro Gly Lys Val Tyr Arg Ser Asp Ser Val Asp Ala Thr His
        195                 200                 205

Ser Pro Ile Phe Tyr Gln Met Glu Gly Leu Val Val Asp Lys Gly Ile
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Thr Phe Ala Asn Leu Lys Gly Thr Leu Glu Leu Phe Ala Lys Lys Leu
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Phe Gly Asn Asp Ile Arg Thr Lys Phe Arg Pro His His Phe Pro Phe
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Thr Glu Pro Ser Ala Glu Met Asp Ala Ser Cys Phe Val Cys His Gly
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Lys Gly Cys Arg Val Cys Lys Gly Glu Gly Trp Ile Glu Leu Leu Gly
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Cys Gly Met Val His Pro Gln Val Leu Arg Asn Cys Gly Ile Asp Pro
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Glu Val Tyr Ser Gly Phe Gly Phe Gly Met Gly Val Asp Arg Met Val
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            20                  25                  30

Arg Val Lys Tyr Leu Gly Lys Lys Gly Glu Leu Thr Lys Ile Leu Arg
        35                  40                  45

Gly Met Lys Asp Leu Ser Lys Glu Glu Arg Pro Ala Ile Gly Lys Leu
    50                  55                  60

Ala Asn Glu Val Arg Ser Thr Leu Glu Asn Ala Ile Glu Glu Ala Ser
65                  70                  75                  80

Lys Lys Ile Lys Ser Ser Ala Ile Gln Ala Lys Leu Gln Asn Glu Thr
                85                  90                  95

Ile Asp Ile Thr Met Pro Gly Ile Lys Gln Thr Val Gly Lys Arg His
            100                 105                 110

Pro Leu Glu Gln Thr Leu Glu Glu Met Lys Gln Ile Phe Ile Ser Met
        115                 120                 125

Gly Phe Thr Ile Glu Glu Gly Pro Glu Val Glu Lys Asp Tyr Tyr Asn
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Phe Glu Ala Leu Asn Ile Pro Lys Asn His Pro Ala Arg Gly Glu Gln
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Asp Thr Phe Tyr Ile Asn Asp Asn Val Val Leu Arg Thr Gln Thr Ser
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Pro Ile Gln Val Arg Thr Met Glu Lys Gln Lys Pro Pro Ile Lys Met
180 185 190

Ile Ser Pro Gly Lys Val Tyr Arg Ser Asp Ser Val Asp Ala Thr His
195 200 205

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

Phe Gly Asn Asp Ile Arg Thr Lys Phe Arg Pro His His Phe Pro Phe
245 250 255

Thr Glu Pro Ser Ala Glu Met Asp Ala Ser Cys Phe Val Cys His Gly
260 265 270

Lys Gly Cys Arg Val Cys Lys Gly Glu Gly Trp Ile Glu Leu Leu Gly
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Cys Gly Met Val His Pro Gln Val Leu Arg Asn Cys Gly Ile Asp Pro
290 295 300

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

Leu Leu Arg Val Tyr Ile Asp Gly Pro His Gly Met Gly Lys Thr Thr
50 55 60

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

Val Pro Glu Pro Met Thr Tyr Trp Arg Val Leu Gly Ala Ser Glu Thr
85 90 95

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Ile Ala Asn Ile Tyr Thr Thr Gln His Arg Leu Asp Gln Gly Glu Ile
            100                 105                 110

Ser Ala Gly Asp Ala Ala Val Val Met Thr Ser Ala Gln Ile Thr Met
        115                 120                 125

Gly Met Pro Tyr Ala Val Thr Asp Ala Val Leu Ala Pro His Ile Gly
    130                 135                 140

Gly Glu Ala Gly Ser Ser His Ala Pro Pro Pro Ala Leu Thr Leu Ile
145                 150                 155                 160

Phe Asp Arg His Pro Ile Ala Ala Leu Leu Cys Tyr Pro Ala Ala Arg
                165                 170                 175

Tyr Leu Met Gly Ser Met Thr Pro Gln Ala Val Leu Ala Phe Val Ala
            180                 185                 190

Leu Ile Pro Pro Thr Leu Pro Gly Thr Asn Ile Val Leu Gly Ala Leu
        195                 200                 205

Pro Glu Asp Arg His Ile Asp Arg Leu Ala Lys Arg Gln Arg Pro Gly
    210                 215                 220

Glu Arg Leu Asp Leu Ala Met Leu Ala Ala Ile Arg Arg Val Tyr Gly
225                 230                 235                 240

Leu Leu Ala Asn Thr Val Arg Tyr Leu Gln Cys Gly Gly Ser Trp Arg
                245                 250                 255

Glu Asp Trp Gly Gln Leu Ser Gly Ala Ala Leu Thr Pro Gln Gly Ala
            260                 265                 270

Glu Pro Gln Ser Asn Ala Gly Pro Arg Pro His Ile Gly Glu Thr Leu
        275                 280                 285

Phe Thr Leu Phe Arg Ala Pro Glu Leu Leu Ala Pro Asn Gly Asp Leu
    290                 295                 300

Tyr Asn Val Phe Ala Trp Ala Leu Asp Val Leu Ala Lys Arg Leu Arg
305                 310                 315                 320

Pro Met His Val Phe Ile Leu Asp Tyr Asp Gln Ser Pro Ala Gly Cys
                325                 330                 335

Arg Asp Ala Leu Leu Gln Leu Thr Ser Gly Met Val Gln Thr His Val
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Thr Thr Pro Gly Ser Ile Pro Thr Ile Cys Asp Leu Ala Arg Thr Phe
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tgagacgacc ccttttttatt ctatatgtcg atgctatagc tgagatcgtg gaattcttgt 240

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