SEQUENCE LISTING

<110> UCL Business PLC

<120> METHOD

<130> P114191PCT

<150> GB 1806331.3
<151> 2018-04-18

<160> 7

<170> PatentIn version 3.5

<210> 1
<211> 1296
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<213> Artificial Sequence

<220>
<223> FOXP3 polynucleotide sequence

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ccaggggaa ccttccaggg ccgagatctt cgaggcgggg cccatgcctc ctcttcttcc 180

ttgaacccca tgccaccatc gcagctgcag ctgcccacac tgcccctagt catggtggca 240

ccctccgggg cacggctggg ccccttgccc cacttacagg cactcctcca ggacaggcca 300

catttcatgc accagctctc aacggtggat gcccacgccc ggacccctgt gctgcaggtg 360

cacccctgg agagcccagc catgatcagc ctcacaccac ccaccaccgc cactggggtc 420

ttctccctca aggcccggcc tggcctccca cctgggatca acgtggccag cctggaatgg 480

gtgtccaggg agccggcact gctctgcacc ttcccaaatc ccagtgcacc caggaaggac 540

agcacccttt cggctgtgcc ccagagctcc tacccactgc tggcaaatgg tgtctgcaag 600

tggcccggat gtgagaaggt cttcgaagag ccagaggact tcctcaagca ctgccaggcg 660

gaccatcttc tggatgagaa gggcagggca caatgtctcc tccagagaga gatggtacag 720

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gcccctgaca gcctgtttgc tgtccggagg cacctgtggg gtagccatgg aaacagcaca 960

ttcccagagt tcctccacaa catggactac ttcaagttcc acaacatgcg acccccctttc 1020

acctacgcca cgctcatccg ctgggccatc ctggaggctc cagagaagca gcggacactc 1080

aatgagatct accactggtt cacacgcatg tttgccttct tcagaaacca tcctgccacc 1140

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gagaaggggg ctgtgtggac cgtggatgag ctggagttcc gcaagaaacg gagccagagg 1260

cccagcaggt gttccaaccc tacacctggc ccctga 1296

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<212> DNA
<213> Artificial Sequence

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<223> FOXP3 polynucleotide sequence

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ggagctagag gccctggcgg cacattccag ggcagagatc tgagaggcgg agcccacgcc 180

tctagcagca gcctgaatcc catgccccct agccagctgc agctgcctac actgcctctc 240

gtgatggtgg cccctagcgg agctagactg ggccctctgc ctcatctgca ggctctgctg 300

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cccagaaagg acagcacact gtctgccgtg ccccagagca gctatcccct gctggctaac 600

ggcgtgtgca agtggcctgg ctgcgagaag gtgttcgagg aacccgagga cttcctgaag 660

cactgccagg ccgaccatct gctggacgag aaaggcagag cccagtgcct gctgcagcgc 720

gagatggtgc agtccctgga acagcagctg gtgctggaaa aagaaaagct gagcgccatg 780

caggcccacc tggccggaaa gatggccctg acaaaagcca gcagcgtggc cagctccgac 840

aagggcagct gttgtatcgt ggccgctggc agccagggac ctgtggtgcc tgcttggagc 900

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<210> 3
<211> 431
<212> PRT

<213> Artificial Sequence

<220>
<223> FOXP3 polypeptide sequence - UniProtKB accession Q9BZS1

<400> 3

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Gly Pro Ser Pro Gly Ala Ser Pro Ser Trp Arg Ala Ala Pro Lys Ala
            20                  25                  30

Ser Asp Leu Leu Gly Ala Arg Gly Pro Gly Gly Thr Phe Gln Gly Arg
        35                  40                  45

Asp Leu Arg Gly Gly Ala His Ala Ser Ser Ser Ser Leu Asn Pro Met
    50                  55                  60

Pro Pro Ser Gln Leu Gln Leu Pro Thr Leu Pro Leu Val Met Val Ala
65                  70                  75                  80

Pro Ser Gly Ala Arg Leu Gly Pro Leu Pro His Leu Gln Ala Leu Leu
                85                  90                  95

Gln Asp Arg Pro His Phe Met His Gln Leu Ser Thr Val Asp Ala His
            100                 105                 110

Ala Arg Thr Pro Val Leu Gln Val His Pro Leu Glu Ser Pro Ala Met
        115                 120                 125

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

Ala Arg Pro Gly Leu Pro Pro Gly Ile Asn Val Ala Ser Leu Glu Trp
145                 150                 155                 160

Val Ser Arg Glu Pro Ala Leu Leu Cys Thr Phe Pro Asn Pro Ser Ala
                165                 170                 175

Pro Arg Lys Asp Ser Thr Leu Ser Ala Val Pro Gln Ser Ser Tyr Pro
            180                 185                 190

Leu Leu Ala Asn Gly Val Cys Lys Trp Pro Gly Cys Glu Lys Val Phe
        195                 200                 205

Glu Glu Pro Glu Asp Phe Leu Lys His Cys Gln Ala Asp His Leu Leu
    210                 215                 220

Asp Glu Lys Gly Arg Ala Gln Cys Leu Leu Gln Arg Glu Met Val Gln
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225 230 235 240

Ser Leu Glu Gln Gln Leu Val Leu Glu Lys Glu Lys Leu Ser Ala Met
245 250 255

Gln Ala His Leu Ala Gly Lys Met Ala Leu Thr Lys Ala Ser Ser Val
260 265 270

Ala Ser Ser Asp Lys Gly Ser Cys Cys Ile Val Ala Ala Gly Ser Gln
275 280 285

Gly Pro Val Val Pro Ala Trp Ser Gly Pro Arg Glu Ala Pro Asp Ser
290 295 300

Leu Phe Ala Val Arg Arg His Leu Trp Gly Ser His Gly Asn Ser Thr
305 310 315 320

Phe Pro Glu Phe Leu His Asn Met Asp Tyr Phe Lys Phe His Asn Met
325 330 335

Arg Pro Pro Phe Thr Tyr Ala Thr Leu Ile Arg Trp Ala Ile Leu Glu
340 345 350

Ala Pro Glu Lys Gln Arg Thr Leu Asn Glu Ile Tyr His Trp Phe Thr
355 360 365

Arg Met Phe Ala Phe Phe Arg Asn His Pro Ala Thr Trp Lys Asn Ala
370 375 380

Ile Arg His Asn Leu Ser Leu His Lys Cys Phe Val Arg Val Glu Ser
385 390 395 400

Glu Lys Gly Ala Val Trp Thr Val Asp Glu Leu Glu Phe Arg Lys Lys
405 410 415

Arg Ser Gln Arg Pro Ser Arg Cys Ser Asn Pro Thr Pro Gly Pro
420 425 430

<210> 4
<211> 441
<212> PRT
<213> Artificial Sequence

<220>
<223> FOXP3 polypeptide sequence

<400> 4

Met Pro Asn Pro Arg Pro Gly Lys Pro Ser Ala Pro Ser Leu Ala Leu
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Gly Pro Ser Pro Gly Ala Ser Pro Ser Trp Arg Ala Ala Pro Lys Ala
            20                  25                  30

Ser Asp Leu Leu Gly Ala Arg Gly Pro Gly Gly Thr Phe Gln Gly Arg
        35                  40                  45

Asp Leu Arg Gly Gly Ala His Ala Ser Ser Ser Ser Leu Asn Pro Met
    50                  55                  60

Pro Pro Ser Gln Leu Gln Leu Pro Thr Leu Pro Leu Val Met Val Ala
65                  70                  75                  80

Pro Ser Gly Ala Arg Leu Gly Pro Leu Pro His Leu Gln Ala Leu Leu
                85                  90                  95

Gln Asp Arg Pro His Phe Met His Gln Leu Ser Thr Val Asp Ala His
            100                 105                 110

Ala Arg Thr Pro Val Leu Gln Val His Pro Leu Glu Ser Pro Ala Met
        115                 120                 125

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

Ala Arg Pro Gly Leu Pro Pro Gly Ile Asn Val Ala Ser Leu Glu Trp
145                 150                 155                 160

Val Ser Arg Glu Pro Ala Leu Leu Cys Thr Phe Pro Asn Pro Ser Ala
                165                 170                 175

Pro Arg Lys Asp Ser Thr Leu Ser Ala Val Pro Gln Ser Ser Tyr Pro
            180                 185                 190

Leu Leu Ala Asn Gly Val Cys Lys Trp Pro Gly Cys Glu Lys Val Phe
        195                 200                 205

Glu Glu Pro Glu Asp Phe Leu Lys His Cys Gln Ala Asp His Leu Leu
    210                 215                 220

Asp Glu Lys Gly Arg Ala Gln Cys Leu Leu Gln Arg Glu Met Val Gln
225                 230                 235                 240

Ser Leu Glu Gln Val Glu Glu Leu Ser Ala Met Gln Ala His Leu Ala
                245                 250                 255

Gly Lys Met Ala Leu Thr Lys Ala Ser Ser Val Ala Ser Ser Asp Lys
            260                 265                 270
```

```
Gly Ser Cys Cys Ile Val Ala Ala Gly Ser Gln Gly Pro Val Val Pro
        275                 280                 285

Ala Trp Ser Gly Pro Arg Glu Ala Pro Asp Ser Leu Phe Ala Val Arg
    290                 295                 300

Arg His Leu Trp Gly Ser His Gly Asn Ser Thr Phe Pro Glu Phe Leu
305                 310                 315                 320

His Asn Met Asp Tyr Phe Lys Phe His Asn Met Arg Pro Pro Phe Thr
                325                 330                 335

Tyr Ala Thr Leu Ile Arg Trp Ala Ile Leu Glu Ala Pro Glu Lys Gln
            340                 345                 350

Arg Thr Leu Asn Glu Ile Tyr His Trp Phe Thr Arg Met Phe Ala Phe
        355                 360                 365

Phe Arg Asn His Pro Ala Thr Trp Lys Asn Ala Ile Arg His Asn Leu
    370                 375                 380

Ser Leu His Lys Cys Phe Val Arg Val Glu Ser Glu Lys Gly Ala Val
385                 390                 395                 400

Trp Thr Val Asp Glu Leu Glu Phe Arg Lys Lys Arg Ser Gln Arg Pro
                405                 410                 415

Ser Arg Cys Ser Asn Pro Thr Pro Gly Pro Glu Gly Arg Gly Ser Leu
            420                 425                 430

Leu Thr Cys Gly Asp Val Glu Glu Asn
        435                 440
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<210> 5
<211> 452
<212> PRT
<213> Artificial Sequence

<220>
<223> FOXP3-2A polypeptide sequence

<400> 5

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Met Pro Asn Pro Arg Pro Gly Lys Pro Ser Ala Pro Ser Leu Ala Leu
1               5                   10                  15

Gly Pro Ser Pro Gly Ala Ser Pro Ser Trp Arg Ala Ala Pro Lys Ala
            20                  25                  30

Ser Asp Leu Leu Gly Ala Arg Gly Pro Gly Gly Thr Phe Gln Gly Arg
```

```
        35                  40                  45

Asp Leu Arg Gly Gly Ala His Ala Ser Ser Ser Ser Leu Asn Pro Met
    50                  55                  60

Pro Pro Ser Gln Leu Gln Leu Pro Thr Leu Pro Leu Val Met Val Ala
65                  70                  75                  80

Pro Ser Gly Ala Arg Leu Gly Pro Leu Pro His Leu Gln Ala Leu Leu
                85                  90                  95

Gln Asp Arg Pro His Phe Met His Gln Leu Ser Thr Val Asp Ala His
            100                 105                 110

Ala Arg Thr Pro Val Leu Gln Val His Pro Leu Glu Ser Pro Ala Met
        115                 120                 125

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

Ala Arg Pro Gly Leu Pro Pro Gly Ile Asn Val Ala Ser Leu Glu Trp
145                 150                 155                 160

Val Ser Arg Glu Pro Ala Leu Leu Cys Thr Phe Pro Asn Pro Ser Ala
                165                 170                 175

Pro Arg Lys Asp Ser Thr Leu Ser Ala Val Pro Gln Ser Ser Tyr Pro
            180                 185                 190

Leu Leu Ala Asn Gly Val Cys Lys Trp Pro Gly Cys Glu Lys Val Phe
        195                 200                 205

Glu Glu Pro Glu Asp Phe Leu Lys His Cys Gln Ala Asp His Leu Leu
    210                 215                 220

Asp Glu Lys Gly Arg Ala Gln Cys Leu Leu Gln Arg Glu Met Val Gln
225                 230                 235                 240

Ser Leu Glu Gln Gln Leu Val Leu Glu Lys Glu Lys Leu Ser Ala Met
                245                 250                 255

Gln Ala His Leu Ala Gly Lys Met Ala Leu Thr Lys Ala Ser Ser Val
            260                 265                 270

Ala Ser Ser Asp Lys Gly Ser Cys Cys Ile Val Ala Ala Gly Ser Gln
        275                 280                 285

Gly Pro Val Val Pro Ala Trp Ser Gly Pro Arg Glu Ala Pro Asp Ser
```

```
    290                 295                 300

Leu Phe Ala Val Arg Arg His Leu Trp Gly Ser His Gly Asn Ser Thr
305                 310                 315                 320

Phe Pro Glu Phe Leu His Asn Met Asp Tyr Phe Lys Phe His Asn Met
                325                 330                 335

Arg Pro Pro Phe Thr Tyr Ala Thr Leu Ile Arg Trp Ala Ile Leu Glu
            340                 345                 350

Ala Pro Glu Lys Gln Arg Thr Leu Asn Glu Ile Tyr His Trp Phe Thr
        355                 360                 365

Arg Met Phe Ala Phe Phe Arg Asn His Pro Ala Thr Trp Lys Asn Ala
    370                 375                 380

Ile Arg His Asn Leu Ser Leu His Lys Cys Phe Val Arg Val Glu Ser
385                 390                 395                 400

Glu Lys Gly Ala Val Trp Thr Val Asp Glu Leu Glu Phe Arg Lys Lys
                405                 410                 415

Arg Ser Gln Arg Pro Ser Arg Cys Ser Asn Pro Thr Pro Gly Pro Gly
            420                 425                 430

Ala Thr Asn Phe Ser Leu Leu Lys Gln Ala Gly Asp Val Glu Glu Asn
        435                 440                 445

Pro Gly Pro Ser
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<210> 6
<211> 462
<212> PRT
<213> Artificial Sequence

<220>
<223> FOXP3-2A polypeptide sequence

<400> 6

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Met Pro Asn Pro Arg Pro Gly Lys Pro Ser Ala Pro Ser Leu Ala Leu
1               5                   10                  15

Gly Pro Ser Pro Gly Ala Ser Pro Ser Trp Arg Ala Ala Pro Lys Ala
            20                  25                  30

Ser Asp Leu Leu Gly Ala Arg Gly Pro Gly Gly Thr Phe Gln Gly Arg
        35                  40                  45
```

```
Asp Leu Arg Gly Gly Ala His Ala Ser Ser Ser Ser Leu Asn Pro Met
    50                  55                  60

Pro Pro Ser Gln Leu Gln Leu Pro Thr Leu Pro Leu Val Met Val Ala
65                  70                  75                  80

Pro Ser Gly Ala Arg Leu Gly Pro Leu Pro His Leu Gln Ala Leu Leu
                85                  90                  95

Gln Asp Arg Pro His Phe Met His Gln Leu Ser Thr Val Asp Ala His
            100                 105                 110

Ala Arg Thr Pro Val Leu Gln Val His Pro Leu Glu Ser Pro Ala Met
        115                 120                 125

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

Ala Arg Pro Gly Leu Pro Pro Gly Ile Asn Val Ala Ser Leu Glu Trp
145                 150                 155                 160

Val Ser Arg Glu Pro Ala Leu Leu Cys Thr Phe Pro Asn Pro Ser Ala
                165                 170                 175

Pro Arg Lys Asp Ser Thr Leu Ser Ala Val Pro Gln Ser Ser Tyr Pro
            180                 185                 190

Leu Leu Ala Asn Gly Val Cys Lys Trp Pro Gly Cys Glu Lys Val Phe
        195                 200                 205

Glu Glu Pro Glu Asp Phe Leu Lys His Cys Gln Ala Asp His Leu Leu
    210                 215                 220

Asp Glu Lys Gly Arg Ala Gln Cys Leu Leu Gln Arg Glu Met Val Gln
225                 230                 235                 240

Ser Leu Glu Gln Val Glu Glu Leu Ser Ala Met Gln Ala His Leu Ala
                245                 250                 255

Gly Lys Met Ala Leu Thr Lys Ala Ser Ser Val Ala Ser Ser Asp Lys
            260                 265                 270

Gly Ser Cys Cys Ile Val Ala Ala Gly Ser Gln Gly Pro Val Val Pro
        275                 280                 285

Ala Trp Ser Gly Pro Arg Glu Ala Pro Asp Ser Leu Phe Ala Val Arg
    290                 295                 300
```

```
Arg His Leu Trp Gly Ser His Gly Asn Ser Thr Phe Pro Glu Phe Leu
305                 310                 315                 320

His Asn Met Asp Tyr Phe Lys Phe His Asn Met Arg Pro Pro Phe Thr
                325                 330                 335

Tyr Ala Thr Leu Ile Arg Trp Ala Ile Leu Glu Ala Pro Glu Lys Gln
            340                 345                 350

Arg Thr Leu Asn Glu Ile Tyr His Trp Phe Thr Arg Met Phe Ala Phe
        355                 360                 365

Phe Arg Asn His Pro Ala Thr Trp Lys Asn Ala Ile Arg His Asn Leu
    370                 375                 380

Ser Leu His Lys Cys Phe Val Arg Val Glu Ser Glu Lys Gly Ala Val
385                 390                 395                 400

Trp Thr Val Asp Glu Leu Glu Phe Arg Lys Lys Arg Ser Gln Arg Pro
                405                 410                 415

Ser Arg Cys Ser Asn Pro Thr Pro Gly Pro Glu Gly Arg Gly Ser Leu
            420                 425                 430

Leu Thr Cys Gly Asp Val Glu Glu Asn Gly Ala Thr Asn Phe Ser Leu
        435                 440                 445

Leu Lys Gln Ala Gly Asp Val Glu Glu Asn Pro Gly Pro Ser
    450                 455                 460
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<210> 7
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> MBP111-129

<400> 7

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Leu Ser Arg Phe Ser Trp Gly Ala Glu Gly Gln Arg Pro Gly Phe Gly
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Tyr Gly Gly
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