SEQUENCE LISTING

<110> Wang, Li-Hsien
Xue, Yingzi
Murphy, Andrew J.
Stevens, Sean

<120> HUMANIZED IL-4 AND IL-4Ra ANIMALS

<130> 31260 (T0029)

<150> 61/989,757
<151> 2014-05-07

<160> 46

<170> PatentIn version 3.5

<210> 1
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 1
catgcacgga gatggatgtg
20

<210> 2
<211> 21
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 2
gacccctcag gtccacttac c
21

<210> 3
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<220>
<221> misc_feature
<222> (1)..(1)
<223> Labled with FAM: 5-carboxyfluorescein
fluorescent prob

<220>
<221> misc_feature
<222> (25)..(25)
<223> Labled with BHQ: fluorescence quencher
of the black hole quencher
type

<400> 3
aacgtcctca cagcaacga
19

<210> 4
<211> 19
<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 4
gtgcccaggt gtgctcatg
19

<210> 5
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 5
cgcctgcctc ctcactttat c
21

<210> 6
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<220>
<221> misc_feature
<222> (1)..(1)
<223> Labled with FAM: 5-carboxyfluorescein fluorescent probe

<220>
<221> misc_feature
<222> (19)..(19)
<223> Labled with BHQ: fluorescence quencher of the black hole
quencher

type

<400> 6
atctgcttca ccatccact
19

<210> 7
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 7
gcctggacca agactctgt
19

<210> 8
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 8

accgtgggac ggcttcttac
20

<210> 9
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<220>
<221> misc_feature
<222> (1)..(1)
<223> Labled with FAM: 5-carboxyfluorescein fluorescent probe

<220>
<221> misc_feature
<222> (19)..(19)
<223> Labled with BHQ: fluorescence quencher of the black hole quencher
type

<400> 9
caccgagttg accgtaacag acatc
25

<210> 10
<211> 17
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 10
tgcggccgat cttagcc
17

<210> 11
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 11
ttgaccgatt ccttgcgg
18

<210> 12
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<220>
<221> misc_feature
<222> (1)..(1)
<223> Labled with FAM: 5-carboxyfluorescein
fluorescent probe

<220>
<221> misc_feature

<222> (21)..(21)
<223> Labled with BHQ: fluorescence quencher of the black hole quencher
type

<400> 12
acgagcgggt tcggcccatt c
21

<210> 13
<211> 458
<212> DNA
<213> Artificial Sequence

<220>
<223> Nucleic acid sequence containing the upstream junction of Murine
IL4 Locus and Human IL4 sequence

<400> 13
tgctgattgg cccagaataa ctgacaatct ggtgtaataa
aattttccaa tgtaaactca 60

ttttcccttg gtttcagcaa ctttaactct atatatagag
agacctctgc cagcattgca 120

ttgttagcat ctcttgataa acttaattgt ctctcgtcac
tgacggcaca gagctattga 180

tgggtctcac ctcccaactg cttccccctc tgttcttcct
gctagcatgt gccggcaact 240

ttgtccacgg acacaagtgc gatatcacct tacaggagat
catcaaaact ttgaacagcc 300

tcacagagca gaaggtgagt acctatctgg caccatctct ccagatgttc tggtgatgct 360

ctcagtattt ctaggcatga aaacgttaac agctgctaga
gaagttggaa ctggtggttg 420

gtggcagtcc agggcacaca gcgaggcttc tcccctgc
458

<210> 14
<211> 565
<212> DNA
<213> Artificial Sequence

<220>
<223> Nucleic acid sequence containing the
downstream junction of Human
IL4 sequence and floxed hygo selection
cassett

<400> 14
tgtttatttt gcagaattcc tgtcctgtga aggaagccaa
ccagagtacg ttggaaaact 60

tcttggaaag gctaaagacg atcatgagag agaaatattc
aaagtgttcg agctgaatat 120

tttaatttat gagtttttga tagctttatt ttttaagtat
ttatatattt ataactcatc 180

ataaaataaa gtatatatag aatctaacag caatggcatt
taatgtattg gctatgttta 240

cttgacaaat gaaattatgg tttgcaactt ttagggaaat
caatttagtt taccaagaga 300

ctataaatgc tatgggagca aaacaggaaa gaccacttcc ccctcgaggg gttccctctc 360

gagttaggga cataacacac aagataatta aagaacacaa
ggccatacaa gatgcggccg 420

caccggtata acttcgtata aggtatccta tacgaagtta
tatgcatggc ctccgcgccg 480

ggttttggcg cctcccgcgg gcgcccccct cctcacggcg
agcgctgcca cgtcagacga 540

agggcgcagc gagcgtcctg atcct
565

<210> 15
<211> 438
<212> DNA
<213> Artificial Sequence

<220>
<223> Nucleic acid sequence containing the
downstream junction of
floxed hygo selection cassett and
Murine IL-4 locus

<400> 15
tgccaagttc taattccatc agacctcgac ctgcagccgg
cgcgccataa cttcgtataa 60

ggtatcctat acgaagttat ctcgagagga gttcccaccc
ttctcaagag cataatgcgc 120

agatcattaa gggacagatg caggctgggg agacggttca
gcagttagga gtacctgttg 180

ctcttccaga ggacccaggt tcaattcccg gcactcacat agcagcttaa aacaataact 240

caagttctgg gggagctgat gctctcctct ggcctcctgt
ggaggtacac agaccacatg 300

cctgtaggca agacacccac acacataaaa acaaaataaa
ataaggatag aaaggccagg 360

gggatgaatc cagaggtaga agaaaactta ttccctggaa
ttgtcctctg actcccctcc 420

caaaacctct aacacgca
438

<210> 16
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 16
ccgctggcat gtgtattgtg
20

<210> 17
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 17

tgagtgtggg accctcaaga g
21

<210> 18
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<220>
<221> misc_feature
<222> (1)..(1)
<223> Labled with FAM: 5-carboxyfluorescein fluorescent probe

<220>
<221> misc_feature
<222> (24)..(24)
<223> Labled with BHQ: fluorescence quencher of the black hole quencher
type

<400> 18
tgacccaagc cctacatggc cact
24

<210> 19
<211> 21
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 19
tgaggagagc tcacgggaat c
21

<210> 20
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 20
acccatctcc tgcgtttctg
20

<210> 21
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<220>
<221> misc_feature
<222> (1)..(1)
<223> Labled with FAM: 5-carboxyfluorescein
fluorescent probe

<220>
<221> misc_feature

<222> (25)..(25)
<223> Labled with BHQ: fluorescence quencher of the black hole quencher
type

<400> 21
ttgacacgcc agctacactg ctcca
25

<210> 22
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 22
acctgcgtct ccgactacat g
21

<210> 23
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 23
gagctcggtg ctgcaattg
19

<210> 24

<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<220>
<221> misc_feature
<222> (1)..(1)
<223> Labled with FAM: 5-carboxyfluorescein fluorescent probe

<220>
<221> misc_feature
<222> (25)..(25)
<223> Labled with BHQ: fluorescence quencher of the black hole quencher
type

<400> 24
tgggaccatt catcttccac tcgca
25

<210> 25
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 25
ggtggagagg ctattcggc
19

<210> 26
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 26
gaacacggcg gcatcag
17

<210> 27
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<220>
<221> misc_feature
<222> (1)..(1)
<223> Labled with FAM: 5-carboxyfluorescein fluorescent probe

<220>
<221> misc_feature
<222> (23)..(23)
<223> Labled with BHQ: fluorescence quencher of the black hole quencher
type

<400> 27

tgggcacaac agacaatcgg ctg
23

<210> 28
<211> 243
<212> DNA
<213> Artificial Sequence

<220>
<223> Portion of Murine IL-4Ralpha locus and sequence containing
IL-4Ralpha gene

<400> 28
tgggggaggg aggccatgac acaaatgaaa tggaccccgc
tgacccagga tcagcatctg 60

cccactcttc tttctgcagg cacctttgt gtccccaatg
gggtggcttt gctctgggct 120

cctgttccct gtgagctgcc tggtcctgct gcaggtggca
agctctggta agtcaccact 180

tctcaatcat tcatttgttg gctattaatg gcgtgccagg
gtcctgcagt atgtcacctg 240

gcc
243

<210> 29
<211> 243
<212> DNA
<213> Artificial Sequence

<220>

<223> Nucleic acid sequence containing the downstream junction of Human
IL-4Ralpha sequence and floxed neo selection cassett

<400> 29
gtcagatcgt ggagggtctc ggacgagggt cctgaccctg ggtctccagt cctgggaagt 60

ggagcccagg ctgtaccatg gctgacctca gctcatggct cccgggctcg ataactataa 120

cggtcctaag gtagcgactc gagataactt cgtataatgt atgctatacg aagttatatg 180

catggcctcc gcgccgggtt ttggcgcctc ccgcgggcgc ccccctcctc acggcgagcg 240

ctg
243

<210> 30
<211> 390
<212> DNA
<213> Artificial Sequence

<220>
<223> Portion of the sequence of the floxed neo selection cassett and
the Murine IL-4Ralpha locus

<400> 30
tattgttttg ccaagttcta attccatcag acctcgacct gcagccccta gataacttcg 60

tataatgtat gctatacgaa gttatcctag gttggagctc tctgtagcca ggtaaccaag 120

ggtcccaggg gaacccccag tgtggacgcg gactgcacat
gacacagggc ggcctcccca 180

ttcatgactg tttttctcct tgcagacttc cagctgcccc
tgatacagcg ccttccactg 240

ggggtcacca tctcctgcct ctgcatcccg ttgttttgcc
tgttctgtta cttcagcatt 300

accaagtgag ttcctgcttt ggctggtgtc tctggctggc
ccttcagcag tgctctcaga 360

ggtcacagtc attgtgctgg ctgagaaaag
390

<210> 31
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 31
ttggactagt aacaagaagg gtagca
26

<210> 32
<211> 23
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 32
cctttcccat caccctctaa ctt
23

<210> 33
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 33
agctctggtg gacaga
16

<210> 34
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 34
tctctgccaa gctgcttatc c
21

<210> 35
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 35
ggctgcatgg aagaggtgaa
20

<210> 36
<211> 14
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 36
ctctccacaa atcg
14

<210> 37
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 37
caggcaggaa tagctgagat aatct
25

<210> 38
<211> 22
<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 38
tgtggagcaa aaagtggttg at
22

<210> 39
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 39
cctgtgaata gtgataaac
19

<210> 40
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 40
cagttccaaa cgataggctc aa
22

<210> 41

<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 41
ataattctgt gaagcatctg gtcttc
26

<210> 42
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 42
ctagagctgc tagtaaaa
18

<210> 43
<211> 160
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 43
atagccaagg ttgcttctga tgacttcagg tccatatagt
tggattaatg ttatatttca 60

atcccacaga aacctgaaaa atgaagccta aaatgaagta
ttcaaccaac aaaatttcca 120

cagcaaagtg gaagaacaca gcaagcaaag ccttgtgttt
160

<210> 44
<211> 160
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 44
tttatattat tgaataaagt atattttcca aatgtatgtg
agactataat gattttatca 60

tatgatgact caatattctg ctcgagataa cttcgtataa
tgtatgctat acgaagttat 120

atgcatggcc tccgcgccgg gttttggcgc ctcccgcggg
160

<210> 45
<211> 160
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 45
agcccctaga taacttcgta taatgtatgc tatacgaagt
tatgctagta actataacgg 60

tcctaaggta gcgagctagc cgcctgtgcg ttctgggttg
aatgacttaa tgcttccaac 120

tgaagaaagg gtaacagaga gaaagaaagc cattcttggc
160

<210> 46
<211> 237
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 46
tttatattat tgaataaagt atattttcca aatgtatgtg
agactataat gattttatca 60

tatgatgact caatattctg ctcgagataa cttcgtataa
tgtatgctat acgaagttat 120

gctagtaact ataacggtcc taaggtagcg agctagccgc
ctgtgcgttc tgggttgaat 180

gacttaatgc ttccaactga agaaagggta acagagagaa
agaaagccat tcttggc 237