SEQUENCE LISTING

<110> REGENERON PHARMACEUTICALS, INC.

<120> NON-HUMAN ANIMALS HAVING AN ENGINEERED IMMUNOGLOBULIN LAMBDA LIGHT CHAIN AND USES THEREOF

<130> 2010794-1440

<150> 62/609,251
<151> 2017-12-21

<150> 62/609,241
<151> 2017-12-21

<150> 62/594,946
<151> 2017-12-05

<150> 62/594,944
<151> 2017-12-05

<160> 77

<170> PatentIn version 3.5

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<213> Mus sp.

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agagcaacaa caagtacatg gctagcagct acctgaccct gacagcaaga gcatgggaaa 240

ggcatagcag ttacagctgc caggtcactc atgaaggtca cactgtggag aagagtttgt 300

cccgtgctga ctgttcc 317

<210> 2
<211> 106
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Gly Gln Pro Lys Ser Ser Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
1 5 10 15

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Glu Glu Leu Glu Thr Asn Lys Ala Thr Leu Val Cys Thr Ile Thr Asp
            20                  25                  30

Phe Tyr Pro Gly Val Val Thr Val Asp Trp Lys Val Asp Gly Thr Pro
        35                  40                  45

Val Thr Gln Gly Met Glu Thr Thr Gln Pro Ser Lys Gln Ser Asn Asn
    50                  55                  60

Lys Tyr Met Ala Ser Ser Tyr Leu Thr Leu Thr Ala Arg Ala Trp Glu
65                  70                  75                  80

Arg His Ser Ser Tyr Ser Cys Gln Val Thr His Glu Gly His Thr Val
                85                  90                  95

Glu Lys Ser Leu Ser Arg Ala Asp Cys Ser
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cctggaaggc aaatggtaca cctatcaccc agggtgtgga cacttcaaat cccaccaaag      180

agggcaacaa gttcatggcc agcagcttcc tacatttgac atcggaccag tggagatctc      240

acaacagttt tacctgtcaa gttacacatg aaggggacac tgtggagaag agtctgtctc      300

ctgcagaatg tctc                                                        314
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<210> 4
<211> 105
<212> PRT
<213> Mus sp.

<400> 4

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Gly Gln Pro Lys Ser Thr Pro Thr Leu Thr Val Phe Pro Pro Ser Ser
1               5                   10                  15

Glu Glu Leu Lys Glu Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asn
```

```
            20                  25                  30

Phe Ser Pro Ser Gly Val Thr Val Ala Trp Lys Ala Asn Gly Thr Pro
        35                  40                  45

Ile Thr Gln Gly Val Asp Thr Ser Asn Pro Thr Lys Glu Gly Asn Lys
    50                  55                  60

Phe Met Ala Ser Ser Phe Leu His Leu Thr Ser Asp Gln Trp Arg Ser
65                  70                  75                  80

His Asn Ser Phe Thr Cys Gln Val Thr His Glu Gly Asp Thr Val Glu
                85                  90                  95

Lys Ser Leu Ser Pro Ala Glu Cys Leu
            100                 105
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<212> DNA
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<400> 5

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cctggaaggc aaatggtaca cctatcaccc agggtgtgga cacttcaaat cccaccaaag      180

aggacaacaa gtacatggcc agcagcttct tacatttgac atcggaccag tggagatctc      240

acaacagttt tacctgccaa gttacacatg aaggggacac tgtggagaag agtctgtctc      300

ctgcagaatg tctc                                                        314
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<213> Mus sp.

<400> 6

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1               5                   10                  15

Glu Glu Leu Gln Glu Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asn
            20                  25                  30
```

```
Phe Ser Pro Ser Gly Val Thr Val Ala Trp Lys Ala Asn Gly Thr Pro
        35                  40                  45

Ile Thr Gln Gly Val Asp Thr Ser Asn Pro Thr Lys Glu Asp Asn Lys
    50                  55                  60

Tyr Met Ala Ser Ser Phe Leu His Leu Thr Ser Asp Gln Trp Arg Ser
65                  70                  75                  80

His Asn Ser Phe Thr Cys Gln Val Thr His Glu Gly Asp Thr Val Glu
                85                  90                  95

Lys Ser Leu Ser Pro Ala Glu Cys Leu
            100                 105
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cctggaaggc aaatggtgca cctatctccc agggtgtgga cactgcaaat cccaccaaac      180

agggcaacaa atacatcgcc agcagcttct tacgtttgac agcagaacag tggagatctc      240

gcaacagttt tacctgccaa gttacacatg aagggaacac tgtggagaag agtctgtctc      300

ctgcagaatg tgtc                                                        314
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<210> 8
<211> 105
<212> PRT
<213> Rattus sp.

<400> 8

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Gly Gln Pro Lys Ser Thr Pro Thr Leu Thr Val Phe Pro Pro Ser Thr
1               5                   10                  15

Glu Glu Leu Gln Gly Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            20                  25                  30
```

```
Phe Tyr Pro Ser Asp Val Glu Val Ala Trp Lys Ala Asn Gly Ala Pro
        35                  40                  45


Ile Ser Gln Gly Val Asp Thr Ala Asn Pro Thr Lys Gln Gly Asn Lys
    50                  55                  60


Tyr Ile Ala Ser Ser Phe Leu Arg Leu Thr Ala Glu Gln Trp Arg Ser
65                  70                  75                  80


Arg Asn Ser Phe Thr Cys Gln Val Thr His Glu Gly Asn Thr Val Glu
                85                  90                  95


Lys Ser Leu Ser Pro Ala Glu Cys Val
            100                 105
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<211> 314
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<213> Rattus sp.

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tctggaaggc agatggtacc cctatcactc agggtgtgga gactacccag cctttcaaac      180

agaacaacaa gtacatggct accagctacc tgcttttgac agcaaaagca tgggagactc      240

atagcaatta cagctgccag gtcactcacg aagagaacac tgtggagaag agtttgtccc      300

gtgctgagtg ttcc                                                        314
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<210> 10
<211> 105
<212> PRT
<213> Rattus sp.

<400> 10

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Asp Gln Pro Lys Ala Thr Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
1               5                   10                  15


Glu Glu Leu Lys Thr Asp Lys Ala Thr Leu Val Cys Met Val Thr Asp
            20                  25                  30
```

```
Phe Tyr Pro Gly Val Met Thr Val Val Trp Lys Ala Asp Gly Thr Pro
        35                  40                  45


Ile Thr Gln Gly Val Glu Thr Thr Gln Pro Phe Lys Gln Asn Asn Lys
    50                  55                  60


Tyr Met Ala Thr Ser Tyr Leu Leu Leu Thr Ala Lys Ala Trp Glu Thr
65                  70                  75                  80


His Ser Asn Tyr Ser Cys Gln Val Thr His Glu Glu Asn Thr Val Glu
                85                  90                  95


Lys Ser Leu Ser Arg Ala Glu Cys Ser
            100                 105
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<210> 11
<211> 314
<212> DNA
<213> Rattus sp.

<400> 11

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gaaacaaagc cacactggtg tgtctgattt ctgatttcta cccgagtgat gtggaagtgg      120

cctggaaggc aaatggtgca cctatctccc agggtgtgga cactgcaaat cccaccaaac      180

agggcaacaa atacatcgcc agcagcttct tacgtttgac agcagaacag tggagatctc      240

gcaacagttt tacctgccaa gttacacatg aagggaacac tgtggaaaag agtctgtctc      300

ctgcagagtg tgtc                                                        314
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<210> 12
<211> 105
<212> PRT
<213> Rattus sp.

<400> 12

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Gly Gln Pro Lys Ser Thr Pro Thr Leu Thr Val Phe Pro Pro Ser Thr
1               5                   10                  15


Glu Glu Leu Gln Gly Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            20                  25                  30


Phe Tyr Pro Ser Asp Val Glu Val Ala Trp Lys Ala Asn Gly Ala Pro
```

```
        35                  40                  45

Ile Ser Gln Gly Val Asp Thr Ala Asn Pro Thr Lys Gln Gly Asn Lys
    50                  55                  60

Tyr Ile Ala Ser Ser Phe Leu Arg Leu Thr Ala Glu Gln Trp Arg Ser
65                  70                  75                  80

Arg Asn Ser Phe Thr Cys Gln Val Thr His Glu Gly Asn Thr Val Glu
                85                  90                  95

Lys Ser Leu Ser Pro Ala Glu Cys Val
            100                 105
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<210> 13
<211> 314
<212> DNA
<213> Rattus sp.

<400> 13

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ctgacaaggc tacactggtg tgtatggtga cagatttcta ccctggtgtt atgacagtgg      120

tctggaaggc agatggtacc cctatcactc agggtgtgga gactacccag cctttcaaac      180

agaacaacaa gtacatggct accagctacc tgcttttgac agcaaaagca tgggagactc      240

atagcaatta cagctgccag gtcactcacg aagagaacac tgtggagaag agtttgtccc      300

gtgctgagtg ttcc                                                        314
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<210> 14
<211> 105
<212> PRT
<213> Rattus sp.

<400> 14

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Asp Gln Pro Lys Ala Thr Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
1               5                   10                  15

Glu Glu Leu Lys Thr Asp Lys Ala Thr Leu Val Cys Met Val Thr Asp
            20                  25                  30

Phe Tyr Pro Gly Val Met Thr Val Val Trp Lys Ala Asp Gly Thr Pro
        35                  40                  45
```

```
Ile Thr Gln Gly Val Glu Thr Thr Gln Pro Phe Lys Gln Asn Asn Lys
    50                  55                  60


Tyr Met Ala Thr Ser Tyr Leu Leu Leu Thr Ala Lys Ala Trp Glu Thr
65                  70                  75                  80


His Ser Asn Tyr Ser Cys Gln Val Thr His Glu Glu Asn Thr Val Glu
                85                  90                  95


Lys Ser Leu Ser Arg Ala Glu Cys Ser
            100                 105
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<210> 15
<211> 315
<212> DNA
<213> Homo sapiens

<400> 15

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aaggccacac tagtgtgtct gatcagtgac ttctacccgg gagctgtgac agtggcttgg      120

aaggcagatg gcagccccgt caaggcggga gtggagacga ccaaaccctc caaacagagc      180

aacaacaagt acgcggccag cagctacctg agcctgacgc ccgagcagtg gaagtcccac      240

agaagctaca gctgccaggt cacgcatgaa gggagcaccg tggagaagac agtggccct       300

acagaatgtt catag                                                       315
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<210> 16
<211> 104
<212> PRT
<213> Homo sapiens

<400> 16

```
Pro Lys Ala Asn Pro Thr Val Thr Leu Phe Pro Pro Ser Ser Glu Glu
1               5                   10                  15


Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe Tyr
            20                  25                  30


Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Gly Ser Pro Val Lys
        35                  40                  45
```

Ala Gly Val Glu Thr Thr Lys Pro Ser Lys Gln Ser Asn Asn Lys Tyr
    50   55   60

Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser His
65   70   75   80

Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu Lys
                85   90   95

Thr Val Ala Pro Thr Glu Cys Ser
            100

<210> 17
<211> 317
<212> DNA
<213> Homo sapiens

<400> 17
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ccaacaaggc cacactggtg tgtctcataa gtgacttcta cccgggagcc gtgacagtgg 120

cttggaaagc agatagcagc cccgtcaagg cgggagtgga gaccaccaca ccctccaaac 180

aaagcaacaa caagtacgcg gccagcagct atctgagcct gacgcctgag cagtggaagt 240

cccacagaag ctacagctgc caggtcacgc atgaagggag caccgtggag aagacagtgg 300

cccctacaga atgttca 317

<210> 18
<211> 105
<212> PRT
<213> Homo sapiens

<400> 18

Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu
1   5   10   15

Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe
            20   25   30

Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val
        35   40   45

Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys
50 55 60

Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser
65 70 75 80

His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu
85 90 95

Lys Thr Val Ala Pro Thr Glu Cys Ser
100 105

<210> 19
<211> 315
<212> DNA
<213> Homo sapiens

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aaggcagata gcagccccgt caaggcgggg gtggagacca ccacaccctc caaacaaagc 180

aacaacaagt acgcggccag cagctacctg agcctgacgc ctgagcagtg gaagtcccac 240

aaaagctaca gctgccaggt cacgcatgaa gggagcaccg tggagaagac agttgcccct 300

acggaatgtt catag 315

<210> 20
<211> 104
<212> PRT
<213> Homo sapiens

<400> 20

Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu Glu
1 5 10 15

Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe Tyr
20 25 30

Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val Lys
35 40 45

Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys Tyr

```
    50                  55                  60

Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser His
65                  70                  75                  80

Lys Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu Lys
                85                  90                  95

Thr Val Ala Pro Thr Glu Cys Ser
            100
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<210> 21
<211> 321
<212> DNA
<213> Homo sapiens

<400> 21

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gccaacaagg ccacactggt gtgcctgatc agtgacttct acccgggagc tgtgaaagtg      120

gcctggaagg cagatggcag ccccgtcaac acgggagtgg agaccaccac accctccaaa      180

cagagcaaca acaagtacgc ggccagcagc tacctgagcc tgacgcctga gcagtggaag      240

tcccacagaa gctacagctg ccaggtcacg catgaaggga gcaccgtgga gaagacagtg      300

gcccctgcag aatgttcata g                                                321
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<210> 22
<211> 105
<212> PRT
<213> Homo sapiens

<400> 22

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Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu
1               5                   10                  15

Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe
            20                  25                  30

Tyr Pro Gly Ala Val Lys Val Ala Trp Lys Ala Asp Gly Ser Pro Val
        35                  40                  45

Asn Thr Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys
    50                  55                  60
```

```
Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser
65                  70                  75                  80


His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu
                85                  90                  95


Lys Thr Val Ala Pro Ala Glu Cys Ser
            100                 105


<210>  23
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ccaacaaggc cacactggtg tgtctcgtaa gtgacttcta cccgggagcc gtgacagtgg      120

cctggaaggc agatggcagc cccgtcaagg tgggagtgga gaccaccaaa ccctccaaac      180

aaagcaacaa caagtatgcg gccagcagct acctgagcct gacgcccgag cagtggaagt      240

cccacagaag ctacagctgc cgggtcacgc atgaagggag caccgtggag aagacagtgg      300

cccctgcaga atgctct                                                     317


<210>  24
<211>  105
<212>  PRT
<213>  Homo sapiens

<400>  24

Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu
1               5                   10                  15


Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Val Ser Asp Phe
            20                  25                  30


Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Gly Ser Pro Val
        35                  40                  45


Lys Val Gly Val Glu Thr Thr Lys Pro Ser Lys Gln Ser Asn Asn Lys
    50                  55                  60
```

Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser
65 70 75 80

His Arg Ser Tyr Ser Cys Arg Val Thr His Glu Gly Ser Thr Val Glu
85 90 95

Lys Thr Val Ala Pro Ala Glu Cys Ser
100 105

<210> 25
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<400> 25
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<210> 26
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<400> 26
gtgctgctca tgctgtaggt 20

<210> 27
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aaatggcgtc ctgaacagtt ggactga 27

<210> 28
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<400> 28
ccatccagtg agcagttaac atc 23

<210> 29
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tgtcgttcac tgccatcaat c 21

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aggtgcctca gtcgtgtgct tc 22

<210> 31
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ggagcccttc cttgttactt ca 22

<210> 32
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aggtggaaac agggtgactg atg 23

<210> 33

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<210> 34
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tccttgttac ttcataccat cctct 25

<210> 35
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<400> 35
agggtgactg atggcgaaga ct 22

<210> 36
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ttccttcctc aggccagccc 20

<210> 37
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<400> 37
gaggcttgct gagctttcag 20

<210> 38
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<400> 38
aggacggtca gcttggtc 18

<210> 39
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<400> 39
tatgagcctg tgtcacagtg ttggg 25

<210> 40
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gctgacccag gactctgttc 20

<210> 41
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<400> 41
tcccagttcc gaagacataa cac 23

<210> 42
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<400> 42
cctttggtg agaagggttt tggtc 25

<210> 43
<211> 18
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<400> 43
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<210> 44
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<210> 45
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<400> 45
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<210> 46
<211> 21
<212> DNA
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<210> 47
<211> 24
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<400> 47
ccccagagag agaaaacaga tttt 24

<210> 48

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<400> 49
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<210> 50
<211> 19
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<400> 50
ggtggagagg ctattcggc 19

<210> 51
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gaacacggcg gcatcag 17

<210> 52
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<400> 52
tgggcacaac agacaatcgg ctg 23

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<400> 54
ttgaccgatt ccttgcgg 18

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<400> 55
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<400> 56
gggctacttg aggaccttgc t 21

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<400> 60
gcttggaacc tgattggttg tc 22

<210> 61
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<400> 61
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<210> 62
<211> 20
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<400> 62
gcaaacaaaa accactggcc 20

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<400> 63
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<210> 64
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