

497023SEQLIST
SEQUENCE LISTING

<110> Regeneron Pharmaceuticals, Inc.

<120> METHODS FOR BREAKING IMMUNOLOGICAL
TOLERANCE USING MULTIPLE GUIDE RNAS

<130> 057766/497023

<150> 62/339,472

<151> 2016-05-20

<150> 62/368,604

<151> 2016-07-29

<160> 152

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 <223> C5 (Hc) gRNA B DNA-targeting segment (500 bp from target locus endpoint)

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 <210> 7
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 <210> 8
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 <220>
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 <210> 9
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<400> 9
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 <210> 10
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 <223> Lrp5 gRNA A DNA-targeting segment (50 bp from
 target locus end point)
 <400> 10
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 <220>
 <223> Lrp5 gRNA B DNA-targeting segment (500 bp from
 target locus end point)
 <400> 11
 gaatcatgca cggtacccc 20
 <210> 12
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 <223> Lrp5 gRNA B2 DNA-targeting segment (1000 bp from
 target locus end point)
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 <212> DNA
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 <223> Lrp5 gRNA C DNA-targeting segment (29900 and 38430
 bp from target locus end points)
 <400> 13
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 <211> 20
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 <223> Lrp5 gRNA D DNA-targeting segment (29950 and 38380
 bp from target locus end points)
 <400> 14
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<210> 16

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<223> Lrp5 gRNA E DNA-targeting segment (500 bp from target locus end point)

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<210> 17

<211> 20

<212> DNA

<213> Artificial Sequence

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<223> Lrp5 gRNA F DNA-targeting segment (50 bp from target locus end point)

<400> 17

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20

<210> 18

<211> 20

<212> DNA

<213> Artificial Sequence

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<223> Ror1 gRNA A DNA-targeting segment (200 bp from target locus end point)

<400> 18

tgtgggcctt tgctgatcac

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<210> 19

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Ror1 gRNA B DNA-targeting segment (1000 bp from target locus end point)

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aatctatgat cctatgcct

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<210> 20

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<212> DNA

<213> Artificial Sequence

<220>

<223> Ror1 gRNA D DNA-targeting segment (54300 and 55500 bp from target locus end points)

<400> 20

tgccaatagc agtgacttga

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<210> 21
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 <220>
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 <210> 22
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 <400> 22
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 ccgtcctagg ccttctacgt 20

 <210> 24
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 <220>
 <223> Trpa1 gRNA A DNA-targeting segment (100 bp from target locus end point)

 <400> 24
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 <210> 25
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 <220>
 <223> Trpa1 gRNA A2 DNA-targeting segment (500 bp from target locus end point)

 <400> 25
 cacgcactcc aaatttatcc 20

 <210> 26
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 <220>
 <223> Trpa1 gRNA B DNA-targeting segment (1000 bp from

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<400> 26
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 <210> 27
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 <212> DNA
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 <220>
 <223> Trpa1 gRNA C DNA-targeting segment (25600 and
 19740 bp from target locus end points)
 <400> 27
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 <210> 28
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 <220>
 <223> Trpa1 gRNA D DNA-targeting segment (26970 and
 18370 bp from target locus end points)
 <400> 28
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 <210> 29
 <211> 20
 <212> DNA
 <213> Artificial Sequence
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 <223> Trpa1 gRNA E2 DNA-targeting segment (1000 bp from
 target locus end point)
 <400> 29
 agtaagggtg gattaaattc 20
 <210> 30
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 <223> Trpa1 gRNA E DNA-targeting segment (500 bp from
 target locus end point)
 <400> 30
 gccatctaga ttcatgtaac 20
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 <223> Trpa1 gRNA F DNA-targeting segment (100 bp from
 target locus end point)
 <400> 31
 gactagaaat gttctgcacc 20
 <210> 32
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<213> Artificial Sequence
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 <223> 190045 forward primer
 <400> 32
 gagctcatag ccaacagctt g 21
 <210> 33
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 <223> 190061 forward primer
 <400> 33
 atgcatcaga tcacgctcag 20
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 <223> 190068 forward primer
 <400> 34
 gtccttgtgg cattccaac 20
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 <400> 35
 ccagtatggg gtcagttaat agcg 24
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 <223> 190033 forward primer (same as forward primer for
 SV 48.3 in Fig. 6)
 <400> 36
 ctgtgcagaa agcagcctc 19
 <210> 37
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 <223> 190013 forward primer
 <400> 37
 cctctccctc taggcacctg 20
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 <223> 190045 reverse primer

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 <210> 39
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 <223> 190068 reverse primer

 <400> 40
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 <223> 190030 reverse primer

 <400> 41
 ctgttatctg caaggcaccc 20

 <210> 42
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 <220>
 <223> 190033 reverse primer (same as reverse primer for
 SV 48.3 in Fig. 6)

 <400> 42
 acaactggat cctgattcgc 20

 <210> 43
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 <220>
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 <400> 43
 taagagggca tgggtgagac 20

 <210> 44
 <211> 20
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 <400> 44
 aattcagaag acctatcgta 20

 <210> 45
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 <223> T3 probe (B6) - SNV 1.2 in Fig. 6

 <400> 45
 tatgtgtata ggtgtttgga t 21

 <210> 46
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 <212> DNA
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 <223> T6 probe (B6) - SNV 11.1 in Fig. 6

 <400> 46
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 <210> 47
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 <223> T7 probe (B6) - SNV 13.2 in Fig. 6

 <400> 47
 cgagtcattg cacata 16

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 <223> T8 probe (B6) - SNV 17.5 in Fig. 6

 <400> 48
 ttataaagcc cagtatgtac 20

 <210> 49
 <211> 14
 <212> DNA
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 <220>
 <223> T9 probe (B6) - SNV 25.8 in Fig. 6

 <400> 49
 tgctgcataa tcag 14

 <210> 50
 <211> 18
 <212> DNA
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 <223> T10 probe (B6) - SNV 33.0 in Fig. 6

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<400> 50 tcaggagtga attggata	18
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<400> 51 ctgctactta cctttg	16
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<400> 52 aggaggaaaa cgc	13
<210> 53 <211> 17 <212> DNA <213> Artificial Sequence	
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<400> 53 cctttgttcc tcataag	17
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<400> 54 aatcagaag acctattgta	20
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<210> 63
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 <210> 64
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 <223> C2 forward primer - SNV 0.32 in Fig. 6

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 <210> 65
 <211> 29
 <212> DNA
 <213> Artificial Sequence

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 <223> T3 forward primer - SNV 1.2 in Fig. 6

 <400> 65
 tggatggtt attcttactc aaggttttg 29

 <210> 66
 <211> 22
 <212> DNA
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 <223> T6 forward primer - SNV 11.1 in Fig. 6

 <400> 66
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 <400> 67
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 <210> 68
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 <223> T8 forward primer - SNV 17.5 in Fig. 6

 <400> 68
 cccaaagcat ataacaagaa caaatg 26

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 <211> 18

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<212> DNA
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 <223> T9 forward primer - SNV 25.8 in Fig. 6

 <400> 69
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 <210> 70
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 <210> 72
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 <223> T13 forward primer - SNV 49.6 in Fig. 6

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 <210> 73
 <211> 22
 <212> DNA
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 <220>
 <223> T14 forward primer - SNV 57.2 in Fig. 6

 <400> 73
 tccacaggt ccatgtcttt aa 22

 <210> 74
 <211> 28
 <212> DNA
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 <223> C2 reverse primer - SNV 0.32 in Fig. 6

 <400> 74
 agactacaat gagctacat cataaggt 28

 <210> 75
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 caaccatcta aaactccagt tcca 24
 <210> 76
 <211> 28
 <212> DNA
 <213> Artificial Sequence
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 <223> T6 reverse primer - SNV 11.1 in Fig. 6
 <400> 76
 tgtgtaacag gacagttgaa tgtagaga 28
 <210> 77
 <211> 19
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> T7 reverse primer - SNV 13.2 in Fig. 6
 <400> 77
 cttaaaaccc gccctgcat 19
 <210> 78
 <211> 26
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> T8 reverse primer - SNV 17.5 in Fig. 6
 <400> 78
 ctacaggaga tgtggctggt ctatgt 26
 <210> 79
 <211> 22
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 <223> T9 reverse primer - SNV 25.8 in Fig. 6
 <400> 79
 tcagcgtgat tcgctttag tc 22
 <210> 80
 <211> 26
 <212> DNA
 <213> Artificial Sequence
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 <223> T10 reverse primer - SNV 33.0 in Fig. 6
 <400> 80
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 <210> 81
 <211> 21
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<223> T11 reverse primer - SNV 38.3 in Fig. 6

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tgcagcatct ctgtcaagca a 21

<210> 82
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> T13 reverse primer - SNV 49.6 in Fig. 6

<400> 82
gcaacaacat aaccacagc ataa 24

<210> 83
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> T14 reverse primer - SNV 57.2 in Fig. 6

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gctaagcgtt tggaagaaat tcc 23

<210> 84
<211> 20
<212> DNA
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taggctctaa ggatgctggc 20

<210> 85
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<212> DNA
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<220>
<223> Reverse primer for SV 13.7 in Fig. 6

<400> 85
aagcagcttc aaaccctctg 20

<210> 86
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<212> DNA
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<220>
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<400> 86
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<210> 87
<211> 21
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<220>
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<400> 87
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 <211> 20
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 <223> Forward primer for SV 36.9 in Fig. 6
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 <210> 89
 <211> 20
 <212> DNA
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 <211> 20
 <212> DNA
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 <223> Forward primer for SV 56.7 in Fig. 6
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 <210> 91
 <211> 20
 <212> DNA
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 <223> Reverse primer for SV 56.7 in Fig. 6
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 ctctggctag gaacaatggc 20
 <210> 92
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 <213> Artificial Sequence
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 <223> m-lr-f primer for Lrp5 locus
 <400> 92
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 <210> 93
 <211> 20
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> m-5'-f primer for Lrp5 locus
 <400> 93
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<210> 94
 <211> 20
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 <213> Artificial Sequence

 <220>
 <223> m-A primer for Lrp5 locus

 <400> 94
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 <210> 95
 <211> 26
 <212> DNA
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 <223> h-lr-r primer for Lrp5 locus

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 <210> 96
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> m-5'-r primer for Lrp5 locus

 <400> 96
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 <210> 97
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> h-5'-r primer for Lrp5 locus

 <400> 97
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 <210> 98
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> m-F primer for Lrp5 locus

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 <210> 99
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 <220>
 <223> m-E2 primer for Lrp5 locus

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 <210> 100

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

 <220>
 <223> 7064retU forward primer

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 <210> 101
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 <220>
 <223> 7064retU reverse primer

 <400> 101
 cctagacaac acagacactg tatca 25

 <210> 102
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 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> 7064retU TAQMAN probe

 <400> 102
 ttctgccctt gaaaaggaga ggc 23

 <210> 103
 <211> 18
 <212> DNA
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 <220>
 <223> 7064retD forward primer

 <400> 103
 cctctgaggc cacctgaa 18

 <210> 104
 <211> 23
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 <220>
 <223> 7064retD reverse primer

 <400> 104
 ccctgacaag ttctgccttc tac 23

 <210> 105
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 tgcccaagcc tctgcagctt t 21

 <210> 106
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<213> Artificial Sequence
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 <223> 7140retU forward primer
 <400> 106
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497023SEQLIST

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 <210> 141
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 <210> 145
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 <222> (4)...(5)
 <223> r = A or G

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 <210> 147
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 <223> r = A or G

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