

BRCA1 Gene: Homo sapiens (hg19), chr17:41320245-41322344, reverse genomic strand

Your input sequence is 2100 bp long. It contains 344 possible guide sequences.

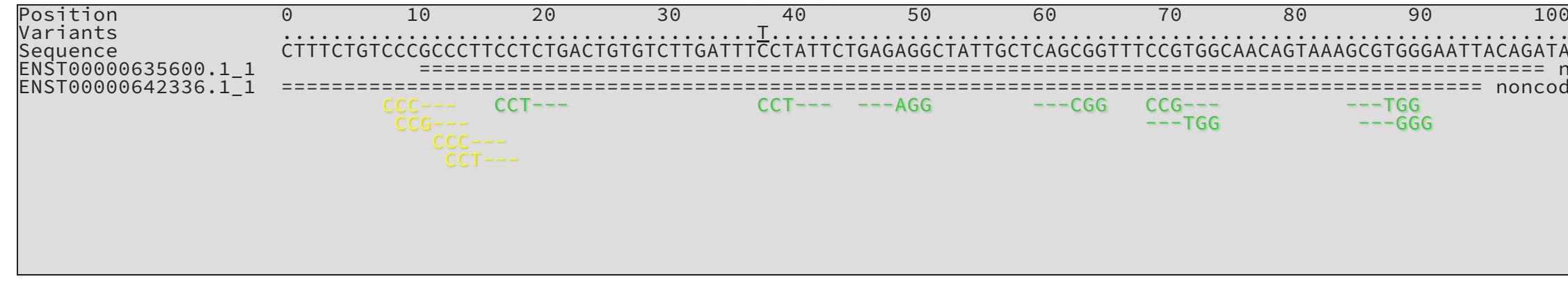
Shown below are their PAM sites and the expected cleavage position located -3bp 5' of the PAM site.

Click on a match for the PAM NGG below to show its 20 bp-long guide sequence. (Need help? Look at the [CRISPOR manual](#))

Colors green, yellow and red indicate high, medium and low specificity of the PAM's guide sequence in the genome.

Gene Models: Basic Gencode28/Ensembl92-93 from UC ✓ Transcript: All Transcripts ✓ Update

Variant database: 1000 Genomes 05-2013 ✓ Min. frequency: 0.0 Update Missing a variant database? We can add it.



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Predicted guide sequences for PAMs

Ranked by default from highest to lowest specificity score (Hsu et al., Nat Biot 2013). Click on a column title to rank by a score.

If you use this website, please cite our [paper in NAR 2018](#). Too much information? Look at the [CRISPOR manual](#).Download as Excel tables: [Guides](#) / [Guides, all scores](#) / [Off-targets](#) / [Saturating mutagenesis assistant](#)

Position/ Strand	Guide Sequence + PAM + Restriction Enzymes + Variants <input type="checkbox"/> Only G- <input type="checkbox"/> Only GG- <input type="checkbox"/> Only A-	MIT Specificity Score	CFD Spec. score	Predicted Efficiency <small>Doench '16</small> <small>Show all scores</small>	Mor-Mateos	Doench-RuleSet3	Outcome	Off-targets for 0-1-2-3-4 mismatches + next to PAM	Genome Browser links to matches sorted by CFD off-target score <input type="checkbox"/> exons only <input type="checkbox"/> chr17 only
73 / fw	CTATTGCTCAGCGGTTCCG TGG Enzymes: <i>BseDI, BstDSI</i> Cloning / PCR primers	96	96	60	29	32	59	74 0 - 0 - 0 - 3 - 26 0 - 0 - 0 - 0 - 0 29 off-targets	4:intro:RP11-191L9.4 4:intro:KIAA1217 4:intergenic:HMGN2P41-VN1R70P show all...
324 / fw	CTATGAGGTGACCTTACGG AGG Enzymes: <i>TspGWI</i> Cloning / PCR primers	95	95	74	60	119	39	72 0 - 0 - 1 - 5 - 34 0 - 0 - 0 - 0 - 0 40 off-targets	2:intro:RALGAPA2 4:intergenic:RNA5P189-CTC-278L1.1 3:exon:RP11-561G1.3 show all...
490 / fw	GTGAGCTCGCTGAGACGTT TGG ⚠ Inefficient Enzymes: <i>MaeII, Hpy188III</i> Cloning / PCR primers	95	98	32	52	-47	63	67 0 - 0 - 2 - 4 - 18 0 - 0 - 0 - 0 - 0 24 off-targets	4:intergenic:AC092835.2-PROM2 4:intro:ATP8A2 4:intergenic:GPR64-PDHA1 show all...
681 / fw	GTATTCTTATGCGAGGGCG GGG Enzymes: <i>EciI</i> Cloning / PCR primers	95	96	45	45	23	67	84 0 - 0 - 0 - 0 - 33 0 - 0 - 0 - 0 - 0 33 off-targets	4:intro:EYS 4:intro:CELF2 4:intro:NCALD show all...
721 / fw	TAAGGCCTTGTAACCCCCC GGG Enzymes: <i>MspI, LpnPI, BmeT110I, Cfr9I, BseDI, NciI, StyD4I, BsiI</i> Cloning / PCR primers	95	98	50	73	37	62	65 0 - 0 - 0 - 1 - 27 0 - 0 - 0 - 0 - 1 28 off-targets	4:intergenic:RNU6-1051P-AC105760.3 4:exon:RN7SL629P 4:exon:RLTPR/ACD show all...
200 / rev	CCGGACGGCTGCTACTCAC CGG Enzymes: <i>MspI, LpnPI, BsaWI, TspDTI, BtsCI</i> Cloning / PCR primers	94	98	54	78	44	63	90 0 - 0 - 3 - 2 - 23 0 - 0 - 0 - 0 - 0 28 off-targets	4:intergenic:WWOX-RP11-190D6.2 4:intergenic:RP11-577N1.2-NKAIN3 4:intro:HPSS5 show all...
674 / fw	CAGATGGGTATTCTTATGCG AGG Cloning / PCR primers	94	95	64	45	79	68	86 0 - 0 - 0 - 5 - 43 0 - 0 - 0 - 0 - 0 48 off-targets	3:exon:REC8 4:intergenic:RP11-567C2.1-RP11-753N8.1 4:intro:AC092661.1 show all...
676 / fw	GATGGGTATTCTTATGCGAG GGG Cloning / PCR primers	94	94	60	51	69	72	82 0 - 0 - 0 - 5 - 46 0 - 0 - 0 - 0 - 0 51 off-targets	4:intergenic:SNORD42-TTC28 4:intergenic:AC021218.2-Y_RNA 4:intergenic:AL512359.1-RP11-737F10.1 show all...
90 / fw	CCGTGGCAACAGTAAAGCGT GGG Enzymes: <i>MluCI</i> Cloning / PCR primers	93	97	61	55	84	76	87 0 - 0 - 0 - 3 - 32 0 - 0 - 0 - 0 - 0 35 off-targets	4:intergenic:VDAC1P10-KCTD3 4:exon:PLEKHG3 4:exon:WDR73 show all...
89 / fw	TCCGTGGCAACAGTAAAGCG TGG Enzymes: <i>MluCI</i> Cloning / PCR primers	92	96	62	40	105	75	91 0 - 0 - 1 - 6 - 33 0 - 0 - 0 - 1 - 1 40 off-targets	2:exon:BRCA1 4:intro:ABC3 4:exon:RP11-353B9.1 show all...
496 / fw	TCGCTGAGACGTTCTGGACGG GGG Enzymes: <i>Hpy188III, BsiFI</i> Cloning / PCR primers	92	96	56	35	59	60	73 0 - 0 - 1 - 1 - 32 0 - 0 - 0 - 0 - 0 34 off-targets	4:intro:RGS12 4:intergenic:TMCO4-RNF186/RP11-91K11.2 2:exon:BRCA1 show all...
497 / fw	CGCTGAGACGTTCTGGACGG GGG Enzymes: <i>BsiFI</i> Cloning / PCR primers	92	96	64	68	44	59	76 0 - 0 - 2 - 1 - 31 0 - 0 - 0 - 0 - 1 34 off-targets	2:exon:BRCA1 2:intergenic:AL137190.1-BDKRB2/RP11-404P21.8 4:intro:SUSD4 show all...
680 / fw	GGTATTCTTATGCGAGGGCG GGG Cloning / PCR primers	92	93	37	43	-51	68	82 0 - 0 - 0 - 1 - 59 0 - 0 - 0 - 0 - 0 60 off-targets	3:intro:EPB41 4:intergenic:AC019046.1-MLTK 4:exon:IFI27L2 show all...
659 / fw	ATTTCCGAAGCTAGGCAGAT GGG Cloning / PCR primers	91	91	58	47	-26	63	85 0 - 0 - 2 - 7 - 54 0 - 0 - 0 - 0 - 0 63 off-targets	3:intro:RP11-552E20.1-TDRG1 4:intro:RP11-717H13.1-RP11-97E7.1 3:intergenic:EMP1-C12orf36 show all...
675 / fw	AGATGGGTATTCTTATGCGA GGG Cloning / PCR primers	90	91	60	41	85	69	80 0 - 0 - 0 - 12 - 73 0 - 0 - 0 - 0 - 1 85 off-targets	4:intro:RPSAP63-GPC3 4:intergenic:AC021218.2-Y_RNA 3:intergenic:AC092684.1-AC110086.1 show all...
722 / fw	AAGGCCGTGTGAACCCCCCG GGG	90	95	69	71	94	64	78 0 - 0 - 0 - 5 - 32 0 - 0 - 0 - 1 - 1 85 off-targets	4:intro:AC013262.1-RN7SL201P 4:intro:SPPL3 3:exon:RP11-139I14.2

	Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BmeT110I</i> , <i>Cfr9I</i> , <i>BseDI</i> , <i>NciI</i> , <i>StyD4I</i> , <i>BslI</i> Cloning / PCR primers								37 off-targets	show all...
601 / rev	CGTCCCCGGAGCATCCCTT GGG ⚠ Inefficient Enzymes: <i>EcoO109I</i> , <i>BshFI</i> , <i>BaeGI</i> , <i>ErhI</i> , <i>NlaIV</i> , <i>BseDI</i> , <i>Eco24I</i> , <i>Bsp1286I</i> , <i>Bsp120I</i> , <i>PspPI</i> Cloning / PCR primers	89	96	50	49	-70	63	81	0 - 0 - 0 - 3 - 49 0 - 0 - 0 - 1 - 1 52 off-targets	4:intergenic:WI2-81516E3.1-RPL35P8 3:intergenic:TIAL1-RAD1P1 4:exon:BRCA1 show all...
726 / fw	CGTTGTGAACCCCCGGGGA AGG Enzymes: <i>BmeT110I</i> , <i>Cfr9I</i> , <i>BseDI</i> , <i>NciI</i> , <i>StyD4I</i> , <i>BslI</i> Cloning / PCR primers	89	96	41	44	-14	67	75	0 - 0 - 0 - 3 - 42 0 - 0 - 0 - 0 - 0 45 off-targets	3:intergenic:RP11-122G18.7-FCGR2A 4:intro:PCBP3 4:intro:PCBP3 show all...
720 / fw	ATAAGGCCTTGTGAACCCCC CGG Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BmeT110I</i> , <i>Cfr9I</i> , <i>BseDI</i> , <i>NciI</i> , <i>StyD4I</i> Cloning / PCR primers	88	94	59	63	92	65	83	0 - 0 - 0 - 2 - 65 0 - 0 - 0 - 0 - 2 67 off-targets	4:intergenic:NPM1P42-NEO1 4:intro:LINC01122 4:intro:PCSK5 show all...
727 / fw	GTTGTGAACCCCCGGGAA GGG Enzymes: <i>BseDI</i> , <i>BslI</i> Cloning / PCR primers	88	91	47	50	-4	67	78	0 - 0 - 0 - 1 - 70 0 - 0 - 0 - 1 - 1 71 off-targets	4:intro:CNBD2 4:intro:PLOD1 4:intro:MKRN1 show all...
871 / fw	CATCAGCTGGTCGCCGGGGA TGG Enzymes: <i>BseDI</i> , <i>NciI</i> , <i>StyD4I</i> , <i>BtsCI</i> Cloning / PCR primers	87	92	45	65	-28	73	78	0 - 0 - 1 - 4 - 88 0 - 0 - 0 - 0 - 0 93 off-targets	4:exon:KCNJ5 4:intergenic:RN7SKP89-KCNN2 4:exon:CTD-2223O18.1 show all...
502 / fw	AGACGTTCTGGACGGGGAC AGG Enzymes: <i>BshFI</i> , <i>BslFI</i> Cloning / PCR primers	86	94	49	63	-96	59	74	0 - 0 - 1 - 3 - 63 0 - 0 - 1 - 1 - 1 67 off-targets	4:intergenic:CDC42EP4-SDK2 4:intro:OTX1 4:intergenic:EFCC1-RP11-434H6.2 show all...
865 / fw	TAAGAACATCAGCTGGTCGC CGG Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BseDI</i> , <i>NciI</i> , <i>StyD4I</i> , <i>BtsCI</i> Cloning / PCR primers	86	94	48	40	34	66	86	0 - 0 - 3 - 5 - 94 0 - 0 - 0 - 0 - 1 102 off-targets	4:intergenic:ADARB2-AS1-ADARB2 3:intro:HNRNPKP3 4:intergenic:CYP2C56P-AC092684.1 show all...
807 / fw	CGAGGAGGAATCCTCTGAT AGG Enzymes: <i>LpnPI</i> , <i>Hpy188III</i> Cloning / PCR primers	85	91	54	69	-9	49	72	0 - 0 - 0 - 8 - 57 0 - 0 - 0 - 1 - 1 65 off-targets	3:intro:LRRC28 3:exon:MYZAP/GCOM1/POLR2M 4:intergenic:DISP1-TLR5 show all...
494 / fw	GCTCGCTGAGACGTTCTGGA CGG Enzymes: <i>Hpy188III</i> , <i>BsFI</i> Cloning / PCR primers	84	90	57	43	68	61	85	0 - 0 - 1 - 5 - 192 0 - 0 - 0 - 0 - 0 198 off-targets	4:exon:AC005307.3 4:intergenic:RP11-677I18.4-RP11-680E19.1 4:intergenic:CRIP1P3-GPR37L1 show all...
651 / fw	GAAAATGAATTTCGAAGCT AGG Enzymes: <i>Mael</i> , <i>AluBI</i> , <i>BslI</i> Cloning / PCR primers	84	88	61	49	-16	74	82	0 - 0 - 1 - 16 - 127 0 - 0 - 0 - 0 - 1 144 off-targets	4:intergenic:RP11-6B19.3-RP11-6B19.2 4:intergenic:KIAA2022-ABCB7 4:intergenic:RPP40P1-RP11-298C3.2 show all...
243 / rev	GGAGACGGAGGCCATAGCGC CGG Enzymes: <i>HinP1I</i> , <i>BspFNI</i> , <i>BstC8I</i> , <i>BslI</i> Cloning / PCR primers	83	84	55	45	118	57	64	0 - 0 - 6 - 22 - 142 0 - 0 - 1 - 0 - 0 170 off-targets	3:intro:BDH1 3:intro:BDH1 3:intro:BDH1 show all...
643 / rev	AATACCCATCTGCCTAGCTT CGG ⚠ Inefficient Enzymes: <i>MluCI</i> , <i>AluBI</i> , <i>Hpy188I</i> , <i>BslI</i> Cloning / PCR primers	83	93	52	29	14	72	86	0 - 0 - 1 - 8 - 87 0 - 0 - 0 - 1 - 2 96 off-targets	4:intro:LINC00871 4:exon:PERP 3:intro:ADCK1 show all...
1377 / fw	TGAGATGAGAGTGGTCGCT GGG Cloning / PCR primers	83	87	60	58	20	73	80	0 - 0 - 2 - 6 - 140 0 - 0 - 1 - 0 - 1 148 off-targets	4:intro:BRCA1 4:intergenic:RP11-552E20.1-TDRG1 4:exon:ZC3HAV1 show all...
1493 / fw	GAGAAAGCTACCACTTACC CGG TA. Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>NciI</i> , <i>StyD4I</i> Cloning / PCR primers	83	90	56	39	27	63	86	0 - 0 - 1 - 11 - 107 0 - 0 - 0 - 0 - 1 119 off-targets	4:intro:CPO 4:intro:ARSB 4:intro:C5orf66 show all...
495 / fw	CTCGCTGAGACGTTCTGGAC CGG Enzymes: <i>Hpy188III</i> , <i>BsFI</i> Cloning / PCR primers	82	93	43	54	-19	64	67	0 - 0 - 1 - 12 - 74 0 - 0 - 0 - 0 - 0 87 off-targets	3:intergenic:MIR4432-AC007381.2 4:intergenic:AC026202.5-AC027119.1 4:intro:RP11-8L2.1 show all...
682 / fw	TATTCTTATGCGAGGGCGG GGG Enzymes: <i>EciI</i> Cloning / PCR primers	82	92	40	71	-1	64	75	0 - 0 - 0 - 6 - 110 0 - 0 - 0 - 0 - 1 116 off-targets	4:exon:IFI27L2 4:intergenic:CANX-MAML1 4:intergenic:AC073325.1-ADCY1 show all...
771 / fw	GAAGCACTAAGGATCAGGTT GGG Enzymes: <i>BaeGI</i> , <i>Bsp1286I</i> Cloning / PCR primers	82	91	47	61	47	71	76	0 - 0 - 1 - 9 - 105 0 - 0 - 0 - 1 - 1 115 off-targets	4:intergenic:RP11-501E14.1-PRDM5 4:intergenic:RP11-72I18.1-RP1-30E17.2 4:intro:CYP7B1 show all...
801 / rev	GGCACATCCAGTTCCTATC AGG Enzymes: <i>Hpy188III</i> Cloning / PCR primers	82	91	41	37	-107	48	73	0 - 0 - 1 - 9 - 108 0 - 0 - 0 - 0 - 3 118 off-targets	4:intro:ANXA5 2:intro:PLCH1 4:intergenic:MIR5100-RET show all...
866 / fw	AAGAACATCAGCTGGTCGCC GGG Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BseDI</i> , <i>NciI</i> , <i>StyD4I</i> , <i>BtsCI</i> Cloning / PCR primers	82	81	50	41	-46	71	76	0 - 0 - 1 - 7 - 277 0 - 0 - 0 - 0 - 1 285 off-targets	4:intro:KIAA1549L 4:intergenic:RASGRF2-CKMT2-AS1/RASGRF2 4:intergenic:RP11-737F10.1-SNORD112 show all...
1182 / rev	CTGGCACCTCTTCTCCGCA AGG Enzymes: <i>EcoO109I</i> , <i>BshFI</i> , <i>SsiI</i> , <i>BaeGI</i> , <i>NlaIV</i> , <i>Eco24I</i> , <i>Bsp1286I</i> , <i>Bsp120I</i> , <i>PspPI</i> Cloning / PCR primers	82	85	45	44	11	73	84	0 - 0 - 3 - 15 - 128 0 - 0 - 0 - 1 - 1 146 off-targets	4:exon:SPTBN4 4:exon:NCND1 2:intro:BRCA1 show all...
1376 / fw	CTGAGATGAGAGTGGTCGCG TGG T. Cloning / PCR primers	82	84	41	41	-77	73	81	0 - 0 - 3 - 16 - 178 0 - 0 - 0 - 0 - 0 93 off-targets	3:intergenic:ZNF107-RP11-561N12.7 4:intro:COL13A1 4:intro:ACSM5 show all...

								197 off-targets	
658 / fw	AATTTCCGAAGCTAGGCAGA TGG Cloning / PCR primers	81	87	58	36	-17	69	85	0 - 0 - 0 - 17 - 81 0 - 0 - 0 - 3 - 2 98 off-targets 3:intergenic:ACTBP9-ZCCHC2 4:intergenic:GL3-AC027269.2 4:intro:RPS6KA2 show all...
628 / fw	GATGCTCCGGGGACGGCG GGG ⚠ High GC content Cloning / PCR primers	80	90	31	70	-78	68	87	0 - 0 - 0 - 11 - 148 0 - 0 - 0 - 0 - 2 159 off-targets 3:intro:RP11-378E13.3 4:intergenic:TCEANC-RAB9A 4:intergenic:LINC01168-GPR123 show all...
728 / fw	TTGTGAACCCCCCGGGGAAG GGG Enzymes: <i>BsII</i> Cloning / PCR primers	80	86	40	54	-33	67	71	0 - 0 - 0 - 3 - 98 0 - 0 - 0 - 0 - 2 101 off-targets 4:intro:RP3-437I16.1 4:intro:TCP11L2 4:intergenic:AC073987.2-AC092568.1 show all...
1293 / fw	TGCTATTGAGAAAGCGCAAG AGG Cloning / PCR primers	80	93	58	38	-25	65	68	0 - 0 - 1 - 10 - 109 0 - 0 - 1 - 1 - 0 120 off-targets 4:intro:KIAA0319L 2:intro:BRCA1 4:intergenic:CLRN1-CLRN1-CLRN1-AS1 show all...
70 / rev	CCCACGCCTTACTGTTGCCA CGG Enzymes: <i>BseDI</i> , <i>BstDSI</i> , <i>TspGWI</i> Cloning / PCR primers	79	91	56	30	-21	59	73	0 - 0 - 2 - 16 - 75 0 - 0 - 2 - 0 - 3 93 off-targets 4:intergenic:RP11-143I21.1-ZNF777 4:intro:NRCAM 4:intergenic:CTD-2560K21.6-LRRC4B show all...
679 / fw	GGGTATTCTTATGCGAGGGG CGG Cloning / PCR primers	79	84	48	69	7	70	81	0 - 0 - 0 - 10 - 125 0 - 0 - 0 - 0 - 0 135 off-targets 4:intro:SLC9A9 4:intergenic:RP11-93B21.1-Y_RNA 3:intro:GRXCR1 show all...
591 / fw	GGTAGAAGAGCCCCGGGAAA GGG Enzymes: <i>BsFI</i> , <i>BsII</i> Cloning / PCR primers	78	84	53	53	-27	61	73	0 - 0 - 2 - 7 - 140 0 - 0 - 0 - 0 - 1 149 off-targets 4:exon:PARP14 4:intro:PPP1R1C 4:intergenic:CDH2-ARIH2P1 show all...
618 / fw	GGGCCCAAGGGATGCTCCGG GGG Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BseDI</i> , <i>NciI</i> , <i>StyD4I</i> , <i>BsFI</i> , <i>LmnI</i> , <i>BsII</i> Cloning / PCR primers	78	86	44	84	62	69	66	0 - 0 - 1 - 13 - 138 0 - 0 - 0 - 0 - 0 152 off-targets 3:intro:RS1 4:intro:ITC7A 4:intro:SLC25A42 show all...
772 / fw	AAGCACTAAGGATCAGGTTG GGG Enzymes: <i>BaeGI</i> , <i>Bsp1286I</i> Cloning / PCR primers	78	89	52	58	62	71	80	0 - 0 - 0 - 15 - 116 0 - 0 - 0 - 0 - 2 131 off-targets 3:intro:SPAG9 3:intro:GPR98 4:intergenic:CTNNA3-RP11-93L14.1 show all...
127 / rev	GAACACCTTGGCGGCAGCCG AGG Enzymes: <i>NmeAIII</i> , <i>BseDI</i> , <i>Fsp4HI</i> , <i>BstV1I</i> , <i>ApeKI</i> , <i>BsII</i> Cloning / PCR primers	77	89	57	49	-12	57	69	0 - 0 - 2 - 13 - 80 0 - 0 - 0 - 1 - 2 95 off-targets 4:intergenic:TDRD5-AL359853.1 4:intro:ITGB7 4:intro:EPHA10 show all...
629 / fw	ATGCTCCGGGGACGGCGG GGG ⚠ High GC content Cloning / PCR primers	77	87	29	94	-113	68	78	0 - 0 - 2 - 9 - 115 0 - 0 - 0 - 0 - 7 126 off-targets 2:intro:PTPRN2 4:intergenic:AC004870.3-TNS3 4:intergenic:LINC00243-XXbac-BPG27H4.8 show all...
1543 / rev	ACATATTGCTTCCAACCTT TGG ⚠ Inefficient Enzymes: <i>BstXI</i> Cloning / PCR primers	77	86	31	34	-72	65	77	0 - 0 - 2 - 20 - 119 0 - 0 - 0 - 3 - 6 141 off-targets 3:intro:RP11-179A16.2 4:intergenic:LRP1B-AC012003.1 4:intergenic:RP11-105G23.1-RP11-238F2.1 show all...
149 / fw	TCGGCTGCCGCCAACGGTGT CGG ⚠ Inefficient Enzymes: <i>PspPI</i> , <i>Bme18I</i> Cloning / PCR primers	76	91	42	69	-29	50	83	0 - 0 - 2 - 11 - 58 0 - 0 - 0 - 1 - 0 71 off-targets 3:intergenic:MUC5AC-MUC5B 2:intergenic:RN7SL356P-RP11-7F17.1 4:intergenic:RPS4XP9-RSP03 show all...
622 / fw	CCAAGGGATGCTCCGGGA CGG Enzymes: <i>BseDI</i> , <i>BsFI</i> , <i>BsII</i> Cloning / PCR primers	76	82	32	70	-68	73	71	0 - 0 - 3 - 14 - 165 0 - 0 - 0 - 2 - 1 182 off-targets 4:intergenic:HMGB3P6-PBX1 4:intro:TEM3 4:intergenic:PDE1C-AC018641.7 show all...
715 / rev	AAACTGCCCTTCCCCGGG GGG Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BmeT110I</i> , <i>Hpy166II</i> , <i>Cfr9I</i> , <i>BseDI</i> , <i>NciI</i> , <i>StyD4I</i> , <i>BsII</i> Cloning / PCR primers	76	80	62	74	50	64	76	0 - 0 - 2 - 17 - 120 0 - 0 - 0 - 1 - 8 139 off-targets 3:intro:FLT3 4:intergenic:REXO1-CTB-31O20.6/KLF16 4:intro:FAM81A show all...
766 / fw	CGAGGGAAGCACTAAGGATC AGG Enzymes: <i>NdeI</i> , <i>BspPI</i> Cloning / PCR primers	76	82	48	59	31	61	66	0 - 0 - 1 - 11 - 191 0 - 0 - 0 - 2 - 1 203 off-targets 4:intro:PHF21A 4:intergenic:RN7SKP224-AC079807.4 4:intergenic:RP11-1072N2.4-CTD-2331D11.2 show all...
770 / fw	GGAAGCACTAAGGATCAGGT TGG Cloning / PCR primers	76	85	57	31	40	71	71	0 - 0 - 3 - 14 - 139 0 - 0 - 0 - 1 - 0 156 off-targets 4:intergenic:RP11-19F9.1-RP11-687D19.1 4:intro:UBE2Q2P2 4:intro:UBE2Q2P3 show all...
786 / rev	CTATCAGGAGGATTCTCCTC CTGG ⚠ Inefficient Enzymes: <i>MnlI</i> , <i>BseDI</i> , <i>Hpy188I</i> Cloning / PCR primers	76	90	61	60	-83	68	61	0 - 0 - 2 - 11 - 89 0 - 0 - 0 - 1 - 1 102 off-targets 3:intergenic:MIR548AS-GPC5-IT1 3:intro:CSMD2 4:intergenic:RNU7-14P-AC006076.1 show all...
792 / fw	GGGGCACAGTGTGTCGGAGG AGG Enzymes: <i>BseRI</i> , <i>BseDI</i> , <i>HinfI</i> , <i>Hpy188I</i> , <i>PfeI</i> Cloning / PCR primers	76	85	64	92	18	46	76	0 - 0 - 1 - 19 - 192 0 - 0 - 0 - 2 - 0 212 off-targets 3:intro:PTH1R 4:intro:RP11-183M13.1 2:intro:JAKMIP2 show all...
1181 / rev	TGGCACTTCTTCTCCGCAA GGG	76	83	48	59	-11	75	78	0 - 0 - 1 - 10 - 4:intergenic:RP1-241P17.1-RP11-761E20.1 4:intergenic:RP11-314C16.1-RP11-354I10.1

	Enzymes: <i>EcoO109I</i> , <i>BshFI</i> , <i>SsiI</i> , <i>BaeGI</i> , <i>NlaIV</i> , <i>Eco24I</i> , <i>Bsp1286I</i> , <i>Bsp120I</i> , <i>PspPI</i> Cloning / PCR primers						119 0 - 0 - 1 - 0 - 7 130 off-targets	4:intergenic:RP11-111A21.1-RP11-662J14.1 show all...
1266 / rev	CGCTTTCTCAATAGCACAAA TGG Enzymes: <i>NdeII</i> , <i>MflI</i> , <i>NlaIV</i> , <i>BamHI</i> , <i>BspPI</i> Cloning / PCR primers	76	88	29	34	-187	70 75 0 - 0 - 1 - 21 - 87 0 - 0 - 0 - 1 - 3 109 off-targets	4:inttron:LMNA 4:intergenic:ADAMTS5-GPX1P2 3:intergenic:RP11-27P7.1-SLC2A13P1 show all...
1388 / fw	TGGGTCGCTGGAAAGGCTA GGG Enzymes: <i>MaeI</i> Cloning / PCR primers	76	82	48	68	34	65 76 0 - 0 - 3 - 9 - 159 0 - 0 - 2 - 1 - 3 171 off-targets	4:intergenic:RP11-48D4.2-hsa-mir-3149 4:inttron:AC007277.3 4:intergenic:RPL9P15-RP11-439C8.1 show all...
39 / rev	GAGCAATAGCCTCTCAGAAC AGG Enzymes: <i>Hpy188I</i> Cloning / PCR primers	75	90	43	58	-29	70 76 0 - 0 - 2 - 12 - 106 0 - 0 - 0 - 3 - 4 120 off-targets	4:intergenic:RANBP3L-RNA5SP181 4:intergenic:SNORD3B-PEX12P1 4:inttron:GRM8 show all...
220 / fw	CCGGTGAGTAGCACCGCGTC CGG Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BspFNI</i> , <i>Fsp4HI</i> , <i>BstV1I</i> , <i>ApeKI</i> Cloning / PCR primers	75	87	55	90	34	60 71 0 - 0 - 1 - 4 - 113 0 - 0 - 1 - 1 - 0 118 off-targets	4:intergenic:UBE2K-PDS5A 2:exon:RPLP1 4:intergenic:RP11-398J16.1-AC109925.1 show all...
244 / rev	GGGAGACGGAGGCCATAGCG CGG Enzymes: <i>HinP1I</i> , <i>BspFNI</i> , <i>BstC8I</i> , <i>BsII</i> Cloning / PCR primers	75	82	59	67	80	61 76 0 - 0 - 4 - 18 - 212 0 - 0 - 0 - 0 - 2 234 off-targets	4:inttron:CTC-360P9.4 3:intergenic:AC025674.1-RP11-513O17.2 4:intergenic:DRD2-TMPRSS5 show all...
321 / fw	GGACTATGAGGTGACCTTTA CGG ⚠ Inefficient Enzymes: <i>TspGWI</i> Cloning / PCR primers	75	90	39	66	-109	39 70 0 - 1 - 5 - 22 - 91 0 - 0 - 1 - 0 - 0 119 off-targets	3:inttron:PLXDC1 4:intergenic:RP11-219J21.2-RP11-299D14.2 4:intergenic:RP11-491H19.1-ARID5B show all...
535 / fw	TCTCAGATAACTGGGCCCT GGG Enzymes: <i>PasI</i> , <i>EcoO109I</i> , <i>LpnPI</i> , <i>BaeGI</i> , <i>NlaIV</i> , <i>BseDI</i> , <i>Eco24I</i> , <i>Bsp1286I</i> , <i>Bsp120I</i> , <i>PspPI</i> , <i>BstNI</i> , <i>BstDEI</i> , <i>StyD4I</i> , <i>BspCNI</i> Cloning / PCR primers	75	82	56	47	3	65 92 0 - 0 - 5 - 14 - 122 0 - 0 - 1 - 2 - 2 141 off-targets	4:inttron:OLFML2B 4:intergenic:RP11-736G13.1-CBLN2 3:intergenic:RP11-566J3.4-MEG3 show all...
623 / fw	CAAGGGATGCTCCGGGGAC GGG Enzymes: <i>BsI</i> , <i>BsII</i> Cloning / PCR primers	75	85	38	67	-81	73 74 0 - 0 - 1 - 16 - 133 0 - 0 - 1 - 0 - 0 150 off-targets	2:intergenic:RP11-432M8.20-RP11-432M8.10 3:intron:CDH4 4:exon:MYO7B show all...
716 / rev	CAAACCTCCCCCTTCCCCGG GGG Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BmeT110I</i> , <i>Cfr9I</i> , <i>BseDI</i> , <i>NciI</i> , <i>StyD4I</i> , <i>BsII</i> Cloning / PCR primers	75	82	62	68	53	66 74 0 - 0 - 1 - 17 - 150 0 - 0 - 0 - 0 - 4 168 off-targets	4:inttron:OPCML-IT1 2:inttron:OGDHL 3:inttron:SHANK2 show all...
748 / fw	GGGGCAGTTGTAGGTCTCG AGG Enzymes: <i>TaqI</i> , <i>BmeT110I</i> , <i>Sfr274I</i> , <i>BspTNI</i> , <i>Smol</i> , <i>Hpy188III</i> , <i>BcoDI</i> Cloning / PCR primers	75	94	62	44	-2	67 80 0 - 1 - 2 - 8 - 59 0 - 0 - 1 - 0 - 0 70 off-targets	4:inttron:SORL1 4:inttron:COL23A1 4:intergenic:RP11-680F8.3-TJP1 show all...
1178 / fw	GCTGGTATATATGAGAAGAT GGG Enzymes: <i>EcoO109I</i> , <i>BshFI</i> , <i>BaeGI</i> , <i>NlaIV</i> , <i>Eco24I</i> , <i>Bsp1286I</i> , <i>Bsp120I</i> , <i>PspPI</i> , <i>MboII</i> Cloning / PCR primers	75	87	60	54	58	72 78 0 - 0 - 2 - 13 - 138 0 - 0 - 0 - 2 - 5 153 off-targets	4:intergenic:RP11-400N13.1-QRSL1P2 4:intergenic:RP4-676L2.1-RP11-486M23.1 4:intergenic:TNMD-TSPAN6 show all...
760 / fw	AGGTCTCGAGGGAAGCACTA AGG Enzymes: <i>NdeII</i> , <i>BstDEI</i> , <i>BspPI</i> Cloning / PCR primers	74	88	57	50	54	61 85 0 - 0 - 0 - 10 - 91 0 - 0 - 0 - 3 - 3 101 off-targets	4:intergenic:RP11-437J19.1-RP1-124C6.1 4:intergenic:AC002978.1-CUX2 3:intron:TNKS show all...
858 / fw	ATGTGTATAAGAACATCAGC TGG Enzymes: <i>AluB</i> , <i>PvuII</i> , <i>MspA</i> Cloning / PCR primers	74	84	60	10	37	71 75 0 - 0 - 1 - 15 - 157 0 - 0 - 0 - 2 - 4 173 off-targets	4:inttron:PCSK6 4:intergenic:SLC7A5-CA5A 3:intron:FPGS show all...
1155 / rev	ATCTTCTCATATATACCAGC CGG Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>Cfr10I</i> Cloning / PCR primers	74	83	59	39	17	61 80 0 - 0 - 1 - 16 - 138 0 - 0 - 0 - 1 - 3 155 off-targets	3:intergenic:AP000705.8-AP000705.6 2:inttron:BRCA1 4:intergenic:RPS6P7-ME14 show all...
1355 / rev	CAGCGACCCACTCTCATCTC AGG ⚠ Inefficient Enzymes: <i>NdeII</i> , <i>MflI</i> , <i>NlaIV</i> , <i>BamHI</i> , <i>Hpy188III</i> , <i>BstDEI</i> , <i>BspPI</i> , <i>BspCNI</i> Cloning / PCR primers	74	90	45	59	-11	65 88 0 - 0 - 1 - 16 - 111 0 - 0 - 0 - 2 - 1 128 off-targets	3:intergenic:COMMD9-PRR5L 3:inttron:BRCA1 4:inttron:DNAH8 show all...
188 / rev	CTACTCACCGGATGAAGTGA GGG Enzymes: <i>BspTNI</i> , <i>BcoDI</i> Cloning / PCR primers	73	90	60	42	58	57 86 0 - 0 - 5 - 6 - 48 0 - 0 - 2 - 1 - 1 59 off-targets	4:intergenic:RP11-166D18.1-CLSTN2 4:intergenic:NEIL3-AGA 4:inttron:RP11-308N19.1 show all...
309 / fw	CCTCATTCTGCAGGACTAT AGG Enzymes: <i>BstEII</i> , <i>AsuH</i> , <i>Tsp45I</i> , <i>MaeII</i> Cloning / PCR primers	73	84	55	46	-4	52 81 0 - 0 - 5 - 22 - 146 0 - 0 - 0 - 1 - 1 173 off-targets	2:intergenic:AC098612.1-UNC5D 4:intergenic:CTC-478M6.1-AC007795.1 4:intron:ADAD1 show all...
508 / fw	TCTGGACGGGGACAGGCCG TGG Enzymes: <i>BshFI</i> , <i>BseDI</i> , <i>BstDSI</i> Cloning / PCR primers	72	85	31	69	-77	63 71 0 - 0 - 1 - 13 - 138 0 - 0 - 0 - 1 - 3 152 off-targets	4:exon:GRIFIN 4:exon:ME15/AC007050.18 2:exon:BRCA1 show all...
627 / fw	GGATGCTCGGGGGACAGGGC GGG ⚠ High GC content Enzymes: <i>BsII</i> Cloning / PCR primers	72	83	32	39	-102	68 72 0 - 0 - 1 - 6 - 191 0 - 0 - 0 - 0 - 0 198 off-targets	3:inttron:SLC4A5/RP11-287D1.3 4:intergenic:TP53I1-TSPAN18 4:intergenic:LSM3-RP11-536I6.2 show all...
	TACACATGGTGTCCCCTTCA AGG							3:intergenic:RP11-486E2.1-FAM46A

822 / rev ⚠ Inefficient Enzymes: <i>HpyAV</i> , <i>AgsI</i> , <i>BslI</i> Cloning / PCR primers	72	90	46	50	-45	67	71	0 - 1 - 1 - 18 - 101 0 - 0 - 0 - 2 - 3 121 off-targets	4:exon: <i>STRA6/RP11-60L3.1</i> 4:intro: <i>BRCA1</i> show all...
1461 / rev	TGAGCTTCCTCCAATGCTTC TGG ⚠ Inefficient Cloning / PCR primers	72	86	37	16	-98	72	72	0 - 0 - 4 - 23 - 200 0 - 0 - 0 - 1 - 0 227 off-targets	4:intergenic: <i>SLT2-IT1-SLT2</i> 4:intergenic: <i>RPS7P4-COX6B1P7</i> 4:intergenic: <i>RP11-295D22.1-RP11-360A18.2</i> show all...
443 / fw	GCCACATCTGCAGTAGAG GGG ⚠ Cloning / PCR primers	71	83	50	53	60	72	87	0 - 0 - 3 - 17 - 159 0 - 0 - 0 - 1 - 2 179 off-targets	2:intergenic: <i>KCNMB2-RP11-385J1.2</i> 4:intro: <i>CLCN5</i> 4:intergenic: <i>C1GALT1C1-RP4-655L22.4</i> show all...
590 / fw	AGGTAGAAAGAGCCCCGGGAA AGG Enzymes: <i>BmeT110I</i> , <i>Cfr9I</i> , <i>BseDI</i> , <i>NciI</i> , <i>StyD4I</i> , <i>BsIF1</i> , <i>BslI</i> Cloning / PCR primers	71	87	56	57	4	64	82	0 - 0 - 3 - 13 - 186 0 - 0 - 0 - 1 - 2 202 off-targets	4:intro: <i>TRPM2</i> 4:intergenic: <i>GPR75-ASB3-AC008064.1</i> 4:intergenic: <i>AF131215.6-AF131215.9</i> show all...
729 / fw	TGTGAACCCCCCGGGGAAGG GGG Enzymes: <i>BslI</i> Cloning / PCR primers	71	81	52	79	31	68	77	0 - 0 - 1 - 15 - 133 0 - 0 - 0 - 1 - 3 149 off-targets	3:intro: <i>SULF2</i> 4:intergenic: <i>RP11-756P10.4-RP11-756P10.5</i> 3:intergenic: <i>AP001595.1-AP001596.6</i> show all...
789 / fw	TTGGGGCACAGTGTGTCGG AGG Enzymes: <i>BseRI</i> , <i>BseDI</i> , <i>Hpy188I</i> Cloning / PCR primers	71	82	56	65	-12	68	86	0 - 0 - 3 - 20 - 177 0 - 0 - 0 - 1 - 0 200 off-targets	4:intro: <i>HBG1</i> 4:intro: <i>HBG2</i> 4:intergenic: <i>CDKN2AIPNLP1-C1orf95</i> show all...
1177 / fw	GGCTGGTATATGAGAAGA TGG Enzymes: <i>EcoO109I</i> , <i>BshF1</i> , <i>BaeGI</i> , <i>NlaIV</i> , <i>Eco24I</i> , <i>Bsp1286I</i> , <i>Bsp120I</i> , <i>PspPI</i> , <i>MboII</i> Cloning / PCR primers	71	82	49	26	-13	74	68	0 - 0 - 3 - 10 - 149 0 - 0 - 0 - 0 - 8 162 off-targets	4:intergenic: <i>RP11-326K13.4/TRAPPC8-TRAPPC8</i> 4:intergenic: <i>BTF3P7-RP3-429O6.1</i> 4:intergenic: <i>FAM174A-CTC-293G12.1</i> show all...
602 / rev	CCGTCCCCCGGAGCATCCCT TGG ⚠ Enzymes: <i>EcoO109I</i> , <i>BshF1</i> , <i>BaeGI</i> , <i>ErhI</i> , <i>NlaIV</i> , <i>BseDI</i> , <i>Eco24I</i> , <i>Bsp1286I</i> , <i>Bsp120I</i> , <i>PspPI</i> Cloning / PCR primers	70	86	38	47	-32	62	82	0 - 0 - 2 - 11 - 114 0 - 0 - 0 - 0 - 1 127 off-targets	2:exon: <i>FOXN3P1</i> 4:intro: <i>NUP35</i> 4:intro: <i>COX10</i> show all...
172 / rev	GTGAGGGTCTACCCCAACG CGG Enzymes: <i>BshF1</i> , <i>BspFNI</i> , <i>Fsp4HI</i> , <i>TauI</i> , <i>BslI</i> Cloning / PCR primers	69	91	74	67	31	73	80	0 - 1 - 6 - 14 - 60 0 - 1 - 0 - 0 - 0 81 off-targets	4:intergenic: <i>RP11-224P11.1-KIAA1462</i> 2:exon: <i>TTC19/RPLP1P11</i> 4:intergenic: <i>SNORA75-RPS7P6</i> show all...
446 / fw	ACATCTGCAGTAGAGGGG GGG ⚠ Cloning / PCR primers	69	76	66	68	74	70	80	0 - 0 - 0 - 28 - 178 0 - 0 - 0 - 2 - 0 206 off-targets	4:intro: <i>MRPL32</i> 4:intergenic: <i>CLOCK/RP11-528I4.2-PDCL2</i> 4:intergenic: <i>AL592205.2-DPYD</i> show all...
509 / fw	CTGGACGGGGACAGGCCGT GGG ⚠ Enzymes: <i>BshF1</i> , <i>BseDI</i> , <i>BstDSI</i> Cloning / PCR primers	69	89	41	83	-8	65	69	0 - 1 - 1 - 7 - 115 0 - 0 - 0 - 1 - 2 124 off-targets	1:exon: <i>BRCA1</i> 4:intro: <i>SOGA2</i> 4:intro: <i>RAB6B</i> show all...
614 / rev	ACTTTCCCCCGCCGTCCCC CGG ⚠ Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BseDI</i> , <i>NciI</i> , <i>StyD4I</i> , <i>BslI</i> Cloning / PCR primers	69	79	49	45	61	71	66	0 - 0 - 0 - 12 - 175 0 - 0 - 0 - 0 - 3 187 off-targets	4:intergenic: <i>NPM1P28-RP11-78O22.1</i> 4:intergenic: <i>TECR1-RP11-204H9.2</i> 4:intro: <i>RP11-16D22.2</i> show all...
617 / fw	GGGGCCCAAGGGATGCTCCG GGG ⚠ Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BseDI</i> , <i>NciI</i> , <i>StyD4I</i> , <i>BsIF1</i> , <i>LmnI</i> , <i>BslI</i> Cloning / PCR primers	69	83	51	50	-43	71	77	0 - 0 - 2 - 24 - 191 0 - 0 - 0 - 0 - 2 217 off-targets	4:intergenic: <i>OR5BL1P-OR9Q1</i> 4:intro: <i>RS1</i> 4:intergenic: <i>GLIS1-RNU7-95P</i> show all...
717 / rev	ACAAACTGCCCTTCCCG GGG Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BmeT110I</i> , <i>Cfr9I</i> , <i>BseDI</i> , <i>NciI</i> , <i>StyD4I</i> , <i>BslI</i> Cloning / PCR primers	69	83	61	46	121	65	79	0 - 0 - 1 - 25 - 127 0 - 0 - 0 - 1 - 7 153 off-targets	3:exon: <i>CAP2</i> 4:intergenic: <i>EEF1E1/EEF1E1-BLOC1S5-RP11-203H2.1</i> 4:intergenic: <i>RP11-432J9.6-UNC5B</i> show all...
829 / fw	GAACGTGAATGTGCTTGAA GGG Enzymes: <i>BsIF1</i> , <i>AgsI</i> , <i>BslI</i> Cloning / PCR primers	69	83	53	51	2	63	91	0 - 0 - 5 - 15 - 132 0 - 0 - 1 - 2 - 2 152 off-targets	2:intro: <i>BRCA1</i> 4:intro: <i>MLLT10</i> 4:intro: <i>YWHAEV7</i> show all...
1203 / fw	CTTGCAGAAGAAGAGTGCC AGG ⚠ Inefficient Enzymes: <i>LpnPI</i> , <i>BstNI</i> , <i>StyD4I</i> Cloning / PCR primers	69	85	49	47	50	63	88	0 - 0 - 1 - 16 - 132 0 - 0 - 0 - 1 - 9 149 off-targets	4:intergenic: <i>AC104843.3-SNORA26</i> 4:exon: <i>TSIX/XIST</i> 4:intergenic: <i>HSP90B1/C12orf73-C12orf73</i> show all...
1389 / fw	GGGTCGCTGGGAAAGGCTAG GGG ⚠ Enzymes: <i>Mael</i> Cloning / PCR primers	69	84	62	57	78	61	74	0 - 0 - 3 - 19 - 171 0 - 0 - 3 - 1 - 5 193 off-targets	2:intro: <i>TMEM63C</i> 4:intergenic: <i>AC069286.1-SDK1</i> 3:intro: <i>BRCA1</i> show all...
444 / fw	CCACATCTGCAGTAGAGGG GGG ⚠ Cloning / PCR primers	68	82	52	54	39	73	84	0 - 0 - 3 - 23 - 180 0 - 0 - 1 - 2 - 6 206 off-targets	2:intergenic: <i>RP11-390E23.6-RNU6-11P</i> 3:intro: <i>RT2-SYT4</i> 3:intergenic: <i>MTHFD2P6-RP11-112L7.1</i> show all...
445 / fw	CACATCTGCAGTAGAGGG GGG ⚠ Cloning / PCR primers	68	79	62	65	86	72	84	0 - 0 - 5 - 14 - 186 0 - 0 - 0 - 0 - 5 205 off-targets	4:intergenic: <i>AC007528.1-MGST1</i> 3:intro: <i>BTK-RPL36A/RPL36A-HNRNPH2</i> 4:intro: <i>FAM19A1</i> show all...
1484 / rev	GGAGTGAATGACC GGTAAG TGG ⚠ AT..... Enzymes: <i>AsuHPI</i>	68	91	60	58	46	71	84	0 - 1 - 2 - 3 - 74 0 - 0 - 0 - 0 - 3	4:exon: <i>TANCA2</i> 4:intergenic: <i>AF064863.1-DSCAM-IT1</i> 4:intro: <i>ZFHX2</i> show all...

	Cloning / PCR primers							80 off-targets		
442 / fw	AGCCACATCTGCAGTGTAGA GGG Enzymes: <i>TspRI</i> Cloning / PCR primers	67	83	47	42	-63	73	88	0 - 0 - 4 - 23 - 170 0 - 0 - 0 - 2 - 6 197 off-targets	2:intergenic:CNMB2-RP11-385J1.2 4:intergenic:RNU1-88P-Y_RNA 4:inton:PRKCZ show all...
867 / fw	AGAACATCAGCTGGTCGCCG GGG Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BseDI</i> , <i>NciI</i> , <i>StyD4I</i> , <i>BtsCI</i> Cloning / PCR primers	67	89	64	48	63	70	72	0 - 0 - 0 - 15 - 333 0 - 0 - 0 - 0 - 0 348 off-targets	4:intergenic:PBX1-RP11-477H21.2 3:inton:TUBGCP2 4:inton:DOCK1 show all...
64 / fw	TCTGAGAGGCTATTGCTAG CGG Enzymes: <i>Bsp1720I</i> , <i>MspA1I</i> , <i>BstDEI</i> , <i>BspCNI</i> Cloning / PCR primers	66	83	68	59	90	64	88	0 - 1 - 1 - 19 - 164 0 - 0 - 0 - 1 - 3 185 off-targets	4:inton:NLGN1 4:inton:ASTN2 3:intergenic:RP11-346L1.2-ZNF703 show all...
189 / rev	GCTACTCACCGGATGAAGTG AGG Enzymes: <i>BspTNI</i> , <i>BcoDI</i> Cloning / PCR primers	66	91	62	42	93	59	87	0 - 0 - 6 - 7 - 55 0 - 0 - 3 - 0 - 1 68 off-targets	3:inton:AL162759.1 2:intergenic:RN7SL356P-RP11-7F17.1 2:exon:RPLP1 show all...
534 / fw	TTCTCAGATAACTGGGCC TGG Enzymes: <i>PasI</i> , <i>EcoO109I</i> , <i>LpnPI</i> , <i>BshFI</i> , <i>BaeGI</i> , <i>NlaIV</i> , <i>BseDI</i> , <i>Eco24I</i> , <i>Bsp1286I</i> , <i>Bsp120I</i> , <i>PspPI</i> , <i>BstNI</i> , <i>StyD4I</i> Cloning / PCR primers	66	82	32	28	0	65	81	0 - 0 - 0 - 29 - 165 0 - 0 - 0 - 3 - 2 194 off-targets	4:inton:RP13-539F13.3 4:intergenic:CTB-14A14.2-OR2V1 4:intergenic:RAD51B-CTD-2325P2.4 show all...
1542 / rev	CATATTGCTTCCAACCCTTT GGG ⚠ Inefficient Enzymes: <i>BstXI</i> Cloning / PCR primers	66	82	24	43	-130	66	77	0 - 0 - 4 - 13 - 201 0 - 0 - 2 - 1 - 9 218 off-targets	4:inton:EPHA6 4:intergenic:PLAUR-IRGC 4:intergenic:AC011286.1-RNU6-1051P show all...
584 / fw	GGGTTAAGGTAGAAGAGCCC CGG Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BmeT110I</i> , <i>Cfr9I</i> , <i>BseDI</i> , <i>Eco24I</i> , <i>Bsp1286I</i> , <i>NciI</i> , <i>StyD4I</i> Cloning / PCR primers	65	87	55	49	30	63	77	0 - 1 - 1 - 15 - 156 0 - 0 - 0 - 3 - 3 173 off-targets	4:inton:PTPRD 3:inton:SCMH1 4:intergenic:U8-RP11-237P21.1 show all...
798 / rev	ACATTCCAGTCCCTATCAGG AGG Enzymes: <i>Hpy188III</i> , <i>HinfI</i> , <i>Pfel</i> Cloning / PCR primers	65	84	62	49	82	42	69	0 - 0 - 3 - 18 - 161 0 - 0 - 1 - 1 - 4 182 off-targets	4:intergenic:FCF1P10-SOCS5P5 4:inton:MOOS 3:intergenic:TANC2-RP11-269G24.2 show all...
1382 / fw	TGAGAGTGGTCGCTGGAA AGG Enzymes: <i>Mael</i> Cloning / PCR primers	65	76	53	55	-4	69	80	0 - 0 - 2 - 24 - 228 0 - 0 - 0 - 1 - 0 254 off-targets	4:inton:AGBL1 3:inton:BRCA1 3:intergenic:snoU13-GRIK2 show all...
1623 / fw	GCAACTCTAGAACCTTAA AGG Enzymes: <i>Tru1I</i> , <i>DraI</i> Cloning / PCR primers	65	80	9	10	-137	59	75	0 - 0 - 2 - 24 - 182 0 - 0 - 0 - 6 - 7 208 off-targets	3:inton:PDE11A 4:inton:STK39 4:intergenic:AC013262.1-RN7SL201P show all...
773 / fw	AGCACTAAGGATCAGGTGAG GGG Enzymes: <i>BaeGI</i> , <i>Bsp1286I</i> Cloning / PCR primers	64	84	70	59	41	67	82	0 - 0 - 2 - 19 - 153 0 - 0 - 0 - 4 - 21 174 off-targets	3:intergenic:RP11-223J6.1-IGKV3OR2-268 3:intergenic:AC017002.1-RP11-68E19.1 3:intergenic:AC013442.1-MIR548AD show all...
1348 / fw	GCGGCAGGGATGTGCTTGA GGG Enzymes: <i>NdeI</i> , <i>BpuEI</i> , <i>Smol</i> , <i>MflI</i> , <i>NlaIV</i> , <i>BamHI</i> , <i>BspPI</i> Cloning / PCR primers	64	87	47	54	-16	62	80	1 - 0 - 4 - 13 - 129 1 - 0 - 0 - 2 - 3 147 off-targets	4:intergenic:AKAP12-RN7SKP268 3:exon:SYTL1 4:intergenic:PKD2L1-RP11-34D15.2 show all...
1349 / fw	CCGGCAGGGATGTGCTTGAG GGG Enzymes: <i>NdeI</i> , <i>BpuEI</i> , <i>Smol</i> , <i>MflI</i> , <i>NlaIV</i> , <i>BamHI</i> , <i>BspPI</i> Cloning / PCR primers	64	87	53	83	38	63	79	1 - 0 - 1 - 16 - 131 1 - 0 - 0 - 4 - 1 149 off-targets	3:intergenic:TPT1P9-RP11-349E4.1 3:intergenic:TYW3-RP11-93N20.1 4:intergenic:RP11-375H19.2-RP11-9L18.3 show all...
122 / rev	CCTTGGCGCAGCCGAGGAA AGG Enzymes: <i>BseDI</i> , <i>BsII</i> Cloning / PCR primers	63	74	48	54	-66	64	69	0 - 1 - 7 - 47 - 155 0 - 0 - 1 - 0 - 1 210 off-targets	2:intergenic:C11orf58-SOX6 1:exon:RPLP1 2:intergenic:SEPT7P8-AC008753.3 show all...
696 / fw	GGGCGGGGGCGAACCTGAG AGG ⚠ High GC content Enzymes: <i>LpnPI</i> , <i>BstDEI</i> Cloning / PCR primers	63	76	48	91	13	66	78	0 - 0 - 4 - 21 - 371 0 - 0 - 1 - 1 - 0 396 off-targets	4:inton:RPTOR 2:inton:BRCA1 4:inton:BNIP3 show all...
740 / fw	CGGGGAAGGGGGCAGTTGT AGG ⚠ Inefficient Enzymes: <i>BspTNI</i> , <i>BcoDI</i> Cloning / PCR primers	63	75	36	58	-52	72	82	0 - 0 - 3 - 29 - 223 0 - 0 - 1 - 2 - 5 255 off-targets	2:inton:BRCA1 3:intergenic:TMEM110/TMEM110-MUSTN1-TMEM110-MUSTN1/TMEM110 3:intergenic:RP11-774I5.1-TOMM22P6 show all...
265 / rev	CAGAGTAGATGCAGGCAAGC TGG Enzymes: <i>AluBI</i> , <i>BstC8I</i> Cloning / PCR primers	62	77	40	40	-23	60	81	0 - 0 - 5 - 30 - 202 0 - 0 - 0 - 6 - 7 237 off-targets	4:intergenic:RNU7-66P-AL590874.1 4:exon:HOXB9 4:inton:SMIM17 show all...
300 / fw	CTACTCTGCCCTCATCTGC AGG Enzymes: <i>HpyCH4V</i> , <i>PstI</i> , <i>BfmI</i> Cloning / PCR primers	62	69	49	7	-63	62	76	0 - 0 - 3 - 29 - 252 0 - 0 - 1 - 3 - 8 284 off-targets	2:intergenic:RNA5SP321-KCNMA1 3:inton:BEGAIN 4:intergenic:LINC00701-RP11-446F3.2 show all...
1369 / fw	GGGGATCCTGAGATGAGAGT GGG Cloning / PCR primers	62	79	64	67	77	69	80	0 - 0 - 5 - 28 - 241 0 - 0 - 1 - 5 - 6 274 off-targets	3:intergenic:PCBD1-RP11-432J9.3 3:inton:SMYD3 4:inton:TRO show all...
1387 / fw	GTGGGTGCGCTGGGAAAGGCT AGG T.....	62	75	48	63	5	65	81	0 - 0 - 4 - 22 -	4:intergenic:JAZF1-RN7SL365P 4:intergenic:RP11-351M8.1/RP11-351M8.2-KIAA1199

	Enzymes: <i>MaeI</i> Cloning / PCR primers						218 0 - 0 - 3 - 4 - 13 244 off-targets	4:exon:RRP7A/SERHL show all...
289 / rev	CCTCATAGTCCTGCAGAATG AGG Cloning / PCR primers	61	80	58	35	24	59 84 0 - 0 - 8 - 23 - 170 0 - 0 - 0 - 2 - 7 201 off-targets	3:intergenic:AC116035.1-TGFBR2 4:intergenic:AC092168.2-NPAS2 3:intergenic:AC079809.2-AC073236.3 show all...
18 / rev	GGAAATCAAGACACAGTCAG AGG Enzymes: <i>Hpy188I, PflMI</i> Cloning / PCR primers	60	75	70	48	40	63 75 0 - 0 - 4 - 38 - 325 0 - 0 - 0 - 2 - 2 367 off-targets	2:intergenic:RP11-443I9.1-RP11-127H13.1 4:intergenic:RN7SL700P-NAP1L4P3 4:intergenic:CHN2-CHN2/CPVL show all...
554 / rev	TCTACCTAACCCAGAGCAG AGG Enzymes: <i>HpyCH4V, MwoI, BstAPI</i> Cloning / PCR primers	60	84	66	29	134	67 76 0 - 0 - 5 - 20 - 139 0 - 0 - 2 - 4 - 8 164 off-targets	3:intergenic:MYO10-RNA5SP179 2:exon:BRCA1 3:intron:DPY19L4 show all...
596 / fw	AAGAGCCCCGGAAAGGGAC AGG Enzymes: <i>EcoO109I, BshFI, BaeGI, NlaIV, Eco24I, Bsp1286I, Bsp120I, PspPI, BsiFI, BsiII</i> Cloning / PCR primers	60	70	37	74	-53	64 71 0 - 0 - 3 - 31 - 256 0 - 0 - 1 - 1 - 0 290 off-targets	2:exon:BRCA1 4:intergenic:RPS18P6-MTHFD2P1 3:intro:NOCL show all...
703 / fw	GGCGGAACCTGAGAGGCATA AGG Cloning / PCR primers	60	88	57	49	34	65 76 0 - 1 - 2 - 18 - 114 0 - 0 - 0 - 3 - 4 135 off-targets	3:intergenic:Y_RNA-AC011841.1 4:intergenic:PDCD6IP-AC018359.1 3:intro:KIAA1328 show all...
50 / fw	TCTTGATTCCTATTCTGAG AGG Enzymes: <i>BstDEI, Hpy188I</i> Cloning / PCR primers	59	75	60	20	-38	83 92 0 - 1 - 6 - 26 - 249 0 - 1 - 1 - 0 - 6 282 off-targets	4:intro:RUNDC3B 4:intergenic:RP11-57H12.5-RP4-586O15.1 4:intergenic:RNU6-1325P-AC095061.1 show all...
836 / rev	AGCTGATGTTCTTATACACA TGG Enzymes: <i>NlaIII, DraIII</i> Cloning / PCR primers	59	83	64	17	-15	69 84 0 - 1 - 2 - 17 - 206 0 - 1 - 0 - 3 - 5 226 off-targets	4:intergenic:RP11-22D3.2-CBLN1 4:intro:ASH1L 4:intro:GRIN3A show all...
1393 / fw	CGCTGGGAAAGGCTAGGGC AGG Cloning / PCR primers	59	72	41	44	0	64 70 0 - 0 - 5 - 33 - 272 0 - 0 - 1 - 1 - 1 310 off-targets	4:intergenic:RP11-302J23.1-KB-1460A1.1 3:intergenic:CTD-2515H24.1-GCOM1/MYZAP/POLR2M 2:intro:MYT1 show all...
121 / rev	CTTGGCCGCAGCCCAGGGAAA GGG Enzymes: <i>NlaIV, BsiII</i> Cloning / PCR primers	58	71	43	72	-39	60 78 0 - 1 - 12 - 11 - 161 0 - 0 - 0 - 0 - 1 185 off-targets	4:intergenic:PIGPP4-TXND2 4:exon:LINC00682 1:exon:RPLP1 show all...
255 / rev	GCAGGCAAGCTGGGAGACGG AGG Enzymes: <i>BshFI, TspGW1</i> Cloning / PCR primers	58	73	57	61	74	54 65 0 - 0 - 6 - 35 - 306 0 - 0 - 0 - 1 - 1 347 off-targets	2:exon:RP11-435F13.2 4:intergenic:AC114877.3-AC114877.1 4:intro:KIF26B show all...
570 / fw	GCACCCCTCTGCTCTGGTTA AGG Enzymes: <i>Tru1I</i> Cloning / PCR primers	58	78	33	55	-45	61 71 0 - 0 - 5 - 28 - 193 0 - 0 - 1 - 1 - 3 226 off-targets	2:intro:CTNNA1 3:intro:TCF3 4:intergenic:XCR1-FLT1P1 show all...
690 / rev	CACAACGCCCTATGCCTCTC AGG ⚠ Inefficient Enzymes: <i>MnlI, NlaIV, BstDEI, BspCNI</i> Cloning / PCR primers	58	90	40	41	-103	66 80 0 - 1 - 0 - 9 - 106 0 - 0 - 0 - 2 - 2 116 off-targets	1:intro:BRCA1 3:intro:MARK1 3:intro:CAMK2D show all...
581 / rev	GGGCCCTGTCCCTTCCCG GGG Enzymes: <i>MspI, LpnPI, BmeT110I, Cfr9I, BseDI, Eco24I, Bsp1286I, NciI, StyD4I, BsiII</i> Cloning / PCR primers	57	80	57	62	95	63 74 0 - 1 - 4 - 23 - 205 0 - 1 - 1 - 0 - 0 233 off-targets	3:intergenic:U3-RP11-251M1.1 2:exon:LURAP1L 2:intergenic:RAB3A-AC068499.10 show all...
626 / fw	GGGATGCTCGGGGGACGGG CGG ⚠ High GC content Enzymes: <i>BsiII</i> Cloning / PCR primers	57	79	31	82	-46	69 76 0 - 0 - 3 - 17 - 236 0 - 0 - 0 - 1 - 2 256 off-targets	4:exon:TMEM132E 4:intro:C16orf91 3:exon:MYO7B show all...
719 / rev	CTACAAACTGCCCTTCCCC CGG Enzymes: <i>MspI, LpnPI, BmeT110I, Cfr9I, BseDI, NciI, HpyAV, StyD4I, BsiII</i> Cloning / PCR primers	57	76	47	40	-39	64 84 0 - 1 - 2 - 31 - 184 0 - 0 - 0 - 10 - 7 218 off-targets	3:intergenic:SNORD27-RP11-75C9.2 4:intergenic:C14orf79-CDCA4/C14orf79 4:intergenic:RP11-883G14.1-RP11-883G14.2 show all...
874 / fw	CAGCTGGTCGCCGGGGATGG TGG Enzymes: <i>BtsCI</i> Cloning / PCR primers	57	74	49	76	-14	64 82 0 - 0 - 1 - 23 - 327 0 - 0 - 0 - 0 - 1 351 off-targets	3:intergenic:RP11-549L6.3-MXI1 3:intro:MYT1 3:intergenic:RP11-356O9.1-FOXA1 show all...
1160 / fw	ACAAAGAAATAAACACCGGC TGG Enzymes: <i>MspI, LpnPI, Cfr10I</i> Cloning / PCR primers	57	62	52	6	28	72 78 0 - 0 - 4 - 52 - 445 0 - 0 - 0 - 2 - 1 501 off-targets	More than 500 off-targets, showing 6 with score >1.0 🚫 3:intergenic:RP11-204E9.1-SOX4 3:intro:THSD4 3:intro:RIMS1 show all...
252 / fw	CCCCCACACTGCCCGCGTA TGG Enzymes: <i>BshFI, MnlI, HinP1I, BsiII</i> Cloning / PCR primers	56	95	44	24	17	62 79 0 - 2 - 2 - 4 - 46 0 - 0 - 0 - 0 - 0 54 off-targets	4:exon:DVL3 4:intergenic:NCF2-SMG7 1:exon:AC008753.3 show all...
288 / rev	CTCATAGTCCTGCAGAATGA GGG Cloning / PCR primers	56	74	54	39	55	60 89 0 - 0 - 4 - 29 - 220 0 - 0 - 0 - 2 - 8 253 off-targets	3:intro:FNDC3A 4:intergenic:C7orf33-AC005229.7 4:intergenic:AL449083.1-RP11-404E6.1 show all...

541 / fw	ATAACTGGGCCCTGGGTC AGG Enzymes: <i>BshFI</i> , <i>Eco24I</i> , <i>Bsp1286I</i> , <i>Hpy188III</i> , <i>BstDEI</i> , <i>BspCNI</i> , <i>MwoI</i> Cloning / PCR primers	56	83	37	57	13	62	72	0 - 1 - 0 - 20 - 162 0 - 0 - 0 - 2 - 8 183 off-targets	4:intergenic:AP000345.4-AP000345.2 4:intergenic:RP11-65J3.6-RP11-65J3.3 3:intergenic:RP11-208N20.1-IL15 show all...
130 / fw	AACTGTGGAACCCCTTCCCT CGG ⚠ Inefficient Enzymes: <i>MnlI</i> , <i>BseDI</i> , <i>Fsp4HI</i> , <i>ApeKI</i> , <i>BsiI</i> Cloning / PCR primers	55	75	48	53	4	57	75	0 - 0 - 5 - 32 - 312 0 - 0 - 0 - 0 - 4 349 off-targets	4:inton:RP11-886D15.1 4:intergenic:NFIX-AC007787.2/NFIX 3:intergenic:RP11-669C19.1-RNU6-815P show all...
315 / rev	ATTGATCTTATCCTCCGTA AGG Enzymes: <i>BstEII</i> , <i>Tsp45I</i> , <i>MaeIII</i> Cloning / PCR primers	55	92	61	58	-22	41	70	0 - 2 - 5 - 7 - 60 0 - 0 - 0 - 0 - 0 74 off-targets	4:inton:ASCC3 1:exon:TTC19/RPLP1P11 1:exon:AC008753.3 show all...
339 / rev	TACACTGGCTGCTTAATAA GGG Cloning / PCR primers	55	81	34	40	-45	50	50	0 - 1 - 8 - 22 - 143 0 - 0 - 0 - 3 - 5 174 off-targets	4:inton:RAPGEF6/CTC-432M15.3 4:intergenic:TBCAP2-KAZN 3:intergenic:RCC2P6/AP003064.2-ASRGL1 show all...
505 / rev	CAGTTATCTGAGAACCCCA CGG Enzymes: <i>LpnPI</i> , <i>BshFI</i> , <i>BseDI</i> , <i>BstDSI</i> , <i>BceAI</i> Cloning / PCR primers	55	77	72	57	88	63	91	1 - 0 - 7 - 28 - 185 1 - 0 - 6 - 8 - 5 221 off-targets	3:intergenic:RP11-38H17.1-RP11-91P17.1 4:inton:CAMK2D 4:exon:SNORA81 show all...
749 / fw	GGGCAGTTTAGGTCTCGA GGG Enzymes: <i>TaqI</i> , <i>BmeT110I</i> , <i>Sfr274I</i> , <i>BspTNI</i> , <i>Smol</i> , <i>Hpy188III</i> , <i>BcoDI</i> Cloning / PCR primers	55	85	67	48	38	68	85	0 - 1 - 1 - 3 - 146 0 - 0 - 1 - 0 - 7 151 off-targets	4:intergenic:Y_RNA-RP11-203B7.2 4:intergenic:GSTO3P-ATP2C1 4:inton:ACSS3 show all...
547 / rev	TAACCCAGAGCAGAGGGTGC AGG Enzymes: <i>BshFI</i> , <i>MnlI</i> , <i>HpyCH4V</i> , <i>BsgI</i> , <i>BstC8I</i> , <i>Pcel</i> , <i>MwoI</i> , <i>BstAPI</i> Cloning / PCR primers	54	71	49	33	38	68	61	0 - 0 - 3 - 29 - 268 0 - 0 - 1 - 4 - 11 300 off-targets	4:intergenic:CTC-281M20.1-ARL2BPP6 3:exon:DNMbp 4:inton:L3MBTL4 show all...
585 / fw	GGTTAAGGTAGAAGAGCCCC GGG Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BmeT110I</i> , <i>Cfr9I</i> , <i>BseDI</i> , <i>Eco24I</i> , <i>Bsp1286I</i> , <i>NciI</i> , <i>StyD4I</i> , <i>BsiI</i> Cloning / PCR primers	54	84	58	52	104	62	79	0 - 1 - 1 - 13 - 130 0 - 0 - 0 - 0 - 4 145 off-targets	4:intergenic:RP11-545D19.1-RP11-320J16.1 1:inton:FAM168A 4:inton:PKIB show all...
616 / fw	AGGGGCCAAGGGATGCTCC GGG Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BseDI</i> , <i>NciI</i> , <i>StyD4I</i> , <i>BsiFI</i> , <i>LmnI</i> Cloning / PCR primers	54	80	46	52	-18	66	73	0 - 0 - 1 - 31 - 475 0 - 0 - 0 - 2 - 1 507 off-targets	More than 500 off-targets, showing 5 with score >1.0 🌟 3:intergenic:TIAL1-RAD1P1 2:exon:TPAN4 4:inton:CDH15 show all...
830 / fw	AACTGGAATGTGCCCTTGAAAG GGG Enzymes: <i>BsiFI</i> , <i>Agsl</i> , <i>BsiI</i> Cloning / PCR primers	54	71	56	42	77	68	78	0 - 1 - 5 - 35 - 216 0 - 0 - 0 - 7 - 7 257 off-targets	3:inton:HSP90AA6P 4:inton:ZFHX4 4:intergenic:SHISA6-DNAH9 show all...
120 / rev	TTGGCGGCAGCCGAGGAAAG GGG Enzymes: <i>NlaIV</i> , <i>BsiI</i> Cloning / PCR primers	53	84	60	78	72	53	84	0 - 1 - 2 - 22 - 126 0 - 0 - 0 - 1 - 2 151 off-targets	3:exon:LINC00682 4:inton:DYNC1II 1:exon:RPLP1 show all...
606 / fw	GGAAAGGGACAGGGCCCAA GGG Enzymes: <i>EcoO109I</i> , <i>BaeGI</i> , <i>ErhI</i> , <i>NlaIV</i> , <i>BseDI</i> , <i>Eco24I</i> , <i>Bsp1286I</i> , <i>Bsp120I</i> , <i>PspPI</i> , <i>BtsCI</i> Cloning / PCR primers	53	68	57	79	63	63	78	0 - 1 - 3 - 38 - 302 0 - 0 - 1 - 2 - 3 344 off-targets	4:inton:PCBD1 3:inton:SEPT11 3:intergenic:EHBP1-AC007098.1/EHBP1 show all...
1187 / fw	TATGAGAGATGGCCCTTG CGG ⚠ Inefficient Enzymes: <i>EcoO109I</i> , <i>MboII</i> Cloning / PCR primers	53	83	66	56	46	75	76	0 - 0 - 3 - 47 - 367 0 - 0 - 0 - 3 - 1 417 off-targets	4:inton:SPATA1 3:intergenic:XXyac-YR12DB5.1-RNU6-974P 3:inton:SLC4A4 show all...
227 / rev	GCGCGGGCGAGTGTGGGCT GGG ⚠ High GC content Enzymes: <i>Fsp4HI</i> , <i>ApeKI</i> , <i>MwoI</i> Cloning / PCR primers	52	81	29	74	-42	57	73	0 - 0 - 1 - 19 - 230 0 - 0 - 0 - 1 - 7 250 off-targets	3:intergenic:GSK3B-RP11-18H7.1 3:intergenic:TRPC3-AC097533.1 4:intergenic:NEK10-AC099535.1 show all...
441 / fw	GAGCCACATCTGCAGTGTAG AGG Enzymes: <i>TspRI</i> Cloning / PCR primers	52	82	57	56	48	76	83	0 - 1 - 6 - 15 - 134 0 - 1 - 0 - 2 - 2 156 off-targets	4:inton:PTPRB 1:exon:AC008753.3 2:exon:RP11-7F17.1 show all...
1491 / rev	CTACAGGGGAGTGACTGACC GGG Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>NciI</i> , <i>StyD4I</i> Cloning / PCR primers	52	88	70	63	27	64	79	0 - 1 - 0 - 14 - 114 0 - 1 - 0 - 0 - 1 129 off-targets	1:inton:BRCA1 3:intergenic:RP11-30G8.1-OCA2 4:inton:PER3 show all...
340 / rev	TTACACTGGCTGCTTAATA AGG Enzymes: <i>Tru1I</i> Cloning / PCR primers	50	82	21	19	-54	49	74	0 - 1 - 8 - 24 - 139 0 - 0 - 1 - 3 - 3 172 off-targets	1:exon:RP11-54C4.1 2:exon:RP11-483M24.2 2:intergenic:RPSAP9-GCNT1 show all...
424 / rev	CCCCCTCTACACTGCAGATG TGG Enzymes: <i>NlaIV</i> , <i>LmnI</i> , <i>MwoI</i> Cloning / PCR primers	50	78	48	43	37	54	63	0 - 1 - 2 - 30 - 200 0 - 1 - 1 - 3 - 4 233 off-targets	2:intergenic:KCNMB2-RP11-385J1.2 4:inton:CGNL1 4:inton:RP11-145G20.1 show all...
583 / rev	TTGGGCCCTGTCCCTTCC CGG ⚠ Inefficient Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BmeT110I</i> , <i>Cfr9I</i> , <i>BseDI</i> , <i>Eco24I</i> , <i>Bsp1286I</i> , <i>NciI</i> , <i>StyD4I</i> , <i>BsiI</i> Cloning / PCR primers	49	71	26	54	-93	60	70	0 - 0 - 9 - 31 - 237 0 - 0 - 7 - 4 - 11 277 off-targets	3:exon:LRRN2 3:inton:CA5B 2:inton:BRCA1 show all...
828 / fw	GGAAGCTGGAATGTGCCTTGA AGG Enzymes: <i>BsiFI</i> , <i>Agsl</i> , <i>BsiI</i> Cloning / PCR primers	49	79	43	46	-26	62	84	0 - 1 - 2 - 31 - 187 0 - 0 - 0 - 1 - 3 187 off-targets	1:inton:BRCA1 4:inton:GRM7 4:exon:ANXA5 show all...

								221 off-targets	
1552 / fw	AAGGAAAAGACCCAAAGGGT TGG Enzymes: <i>BstXI</i> Cloning / PCR primers	49	72	59	58	70	74 80	0 - 1 - 12 - 43 - 342 0 - 0 - 0 - 7 - 4 398 off-targets	3:intergenic:RP11-277I20.3-UTRN 4:intergenic:RN7SKP108-RP11-433J8.2 3:intergenic:LRP1B-AC012353.1 show all...
14 / rev	ATCAAGACACAGTCAGAGGA AGG Cloning / PCR primers	48	67	56	31	64	71 71	0 - 0 - 6 - 58 - 425 0 - 0 - 1 - 9 - 9 489 off-targets	4:intergenic:CCDC124-KCNN1 4:intergenic:TOX2-JPH2 4:intergenic:INPP4B-RPL5P13 show all...
136 / rev	GGAAGGACCGAACACCTTGG CGG Enzymes: <i>Erhl, BseDl, Fsp4Hl, BstV1l, Taul, ApeK1</i> Cloning / PCR primers	48	88	65	76	87	47 79	1 - 2 - 5 - 9 - 71 1 - 0 - 0 - 0 - 0 88 off-targets	1:exon:RPLP1 2:exon:RP11-54C4.1 3:intergenic:RNU5E-7P-RP11-120J4.1 show all...
813 / fw	GGAATCCCTCTGATAGGAAC TGG Enzymes: <i>Bse1l</i> Cloning / PCR primers	48	90	44	27	-4	48 68	0 - 1 - 0 - 9 - 85 0 - 0 - 0 - 1 - 0 95 off-targets	4:intergenic:SLC6A1-HRH1 4:exon:POLR3C 1:intron:BRCA1 show all...
510 / fw	TGGACGGGGACAGGCCGTG GGG Enzymes: <i>BseDl, BstDS1</i> Cloning / PCR primers	47	82	50	96	31	68 79	0 - 1 - 4 - 34 - 170 0 - 0 - 0 - 1 - 3 209 off-targets	4:intergenic:RP3-438O4.4-RP1-102K2.6 1:exon:BRCA1 4:intro:ATP2B2 show all...
718 / rev	TACAAACTGCCCCCTCCCC GGG Enzymes: <i>Mspl, LpnPl, BmeT110l, Cfr9l, BseDl, NciI, StyD4l, BslI</i> Cloning / PCR primers	47	76	44	31	33	62 76	0 - 1 - 3 - 25 - 207 0 - 0 - 0 - 6 - 13 236 off-targets	3:intergenic:IPO8P1-KCNH1 3:intro:ARAP1 4:intergenic:RP5-884C9.2-RP11-214L19.1 show all...
1294 / fw	GCTATTGAGAAAGCGCAAGA GGG Cloning / PCR primers	46	87	71	42	88	68 85	0 - 1 - 1 - 10 - 136 0 - 1 - 0 - 0 - 5 148 off-targets	4:intergenic:RP11-160C18.2-CHRN84 4:intergenic:AC006380.3-CCDC129 1:intro:BRCA1 show all...
526 / fw	CGTGGGGTTCTCAGATAAC TGG Enzymes: <i>EcoO109l, BshFl, BaeGl, Bmul, NlaIV, Eco24l, Bsp1286l, Bsp120l, Bse1l, PspPI</i> Cloning / PCR primers	45	91	28	34	-103	65 78	0 - 1 - 1 - 11 - 66 0 - 1 - 0 - 0 - 0 79 off-targets	1:exon:BRCA1 3:intergenic:ZBED5-AS1-RP11-179A10.1 4:intergenic:ATP6VOD2-RP11-216N21.1 show all...
530 / rev	TGCAGGCCCTCTGAGCCAG GGG Enzymes: <i>PasI, EcoO109l, LpnPl, BshFl, BaeGl, NlaIV, BseDl, Eco24l, Bsp1286l, Bsp120l, PspPI, BstNI, StyD4l</i> Cloning / PCR primers	45	61	63	72	131	69 82	0 - 0 - 15 - 54 - 370 0 - 0 - 7 - 11 - 13 439 off-targets	4:intergenic:PDCD6-AHRR 4:intro:DOPLEY2 4:intro:C19orf44 show all...
615 / fw	CAGGGGCCAAGGGATGCTC CGG Enzymes: <i>Mspl, LpnPl, BseDl, NciI, StyD4l, BslFl, LmnI</i> Cloning / PCR primers	45	68	33	71	-3	66 68	0 - 0 - 6 - 53 - 348 0 - 0 - 2 - 7 - 4 407 off-targets	4:intro:MARCH10 2:intergenic:RP5-1051H14.2-RP5-933E2.1 4:intergenic:RP11-357C3.3-ARHGEF9 show all...
685 / fw	TCTTATGCGAGGGCGGGGG CGG Enzymes: <i>EclI, NlaIV</i> Cloning / PCR primers	45	79	42	78	-90	64 69	0 - 0 - 3 - 25 - 200 0 - 0 - 2 - 4 - 13 228 off-targets	4:intro:EHD2 3:exon:SOX15 4:exon:ROM1/EML3 show all...
1334 / fw	TAGTAACAGATGCTGCCGC AGG Enzymes: <i>Mspl, LpnPl, BstC8l, Cfr10l, Nael, BtsCI</i> Cloning / PCR primers	45	90	50	43	38	70 78	1 - 0 - 1 - 5 - 93 1 - 0 - 0 - 0 - 0 100 off-targets	0:intro:BRCA1 4:intergenic:AL136302.1-SNORD44 3:intro:BCAT2 show all...
1394 / fw	GCTGGAAAGGCTAGGGCA GGG Enzymes: <i>BshFl</i> Cloning / PCR primers	45	53	56	65	12	65 70	0 - 1 - 4 - 65 - 573 0 - 0 - 1 - 4 - 9 643 off-targets	More than 500 off-targets, showing 12 with score >1.0 🚨 2:intro:USP13 3:intergenic:RP11-375I20.6-RPL39P5 1:intro:MYT1 show all...
1418 / fw	GGCCTTGATTGGTGTGGTT TGG Cloning / PCR primers	45	89	39	40	-62	58 73	1 - 0 - 0 - 7 - 114 1 - 0 - 0 - 2 - 2 122 off-targets	0:intro:BRCA1 4:intergenic:C14orf144-RP11-260M19.2 4:intergenic:snoZ247-LDHAP3 show all...
1506 / rev	CCAAGAAAGAGAAAGCTACA GGG Enzymes: <i>Bfml</i> Cloning / PCR primers	45	60	60	30	14	66 88	1 - 0 - 9 - 58 - 461 1 - 0 - 3 - 12 - 10 529 off-targets	More than 500 off-targets, showing 10 with score >1.0 🚨 2:intergenic:RN7SKP254-CTD-2027G2.1 2:intro:LMNB1 3:intergenic:THSD7B-Y_RNA show all...
1507 / rev	TCCAAGAAAGAGAAAGCTAC AGG Enzymes: <i>AluBl, Bfml</i> Cloning / PCR primers	45	57	47	26	-37	62 70	1 - 0 - 5 - 60 - 385 1 - 0 - 0 - 4 - 4 451 off-targets	3:intergenic:RNU6-783P-RP11-2F20.1 3:intergenic:ABR-AC144836.1 4:intergenic:HDX/RP6-33F8.1-SETP4 show all...
13 / rev	TCAAGACACAGTCAGAGGAA GGG Cloning / PCR primers	44	60	65	55	79	73 73	0 - 0 - 10 - 56 - 422 0 - 0 - 2 - 13 - 10 488 off-targets	3:intro:CCDC104 3:intro:DDB2 4:exon:CTDSP2 show all...
531 / rev	GTGCAGGCCCTCTGAGCCCA GGG Enzymes: <i>PasI, EcoO109l, LpnPl, BshFl, BaeGl, NlaIV, BseDl, Eco24l, Bsp1286l, Bsp120l, PspPI, BstNI, StyD4l</i> Cloning / PCR primers	44	70	42	65	47	65 84	0 - 0 - 10 - 66 - 313 0 - 0 - 0 - 8 - 21 389 off-targets	3:intro:ZNF398 4:intro:PARVA 4:intro:DOPLEY2 show all...
582 / rev	TGGGCCCTGTCCCCCTTCCC GGG Enzymes: <i>Mspl, LpnPl, BmeT110l, Cfr9l, BseDl, Eco24l, Bsp1286l, NciI, StyD4l, BslI</i> Cloning / PCR primers	44	64	35	49	-13	62 73	0 - 0 - 9 - 48 - 385 0 - 0 - 5 - 4 - 9 442 off-targets	4:intro:CAMTA1 2:exon:LURAP1L 3:intergenic:U3-RP11-251M1.1 show all...
1335 / fw	AGTAACAGATGCTGCCGC AGG Enzymes: <i>Mspl, LpnPl, BstC8l, Cfr10l, Nael, BtsCI</i> Cloning / PCR primers	44	87	59	54	46	66 85	1 - 0 - 2 - 11 - 110 1 - 0 - 0 - 0 - 0 100 off-targets	0:intro:BRCA1 4:intro:COMM9 4:intergenic:AGBL4-ZNF859P show all...

1400 / rev	GACCAACCACCAATCA AGG Enzymes: <i>BshFI, MnlI, PceI</i> Cloning / PCR primers	44	89	51	15	-14	72	90	1 - 0 - 1 - 15 - 119 1 - 0 - 1 - 2 - 0 136 off-targets	0:inton:BRCA1 4:intergenic:CALN1-TYW1B 4:intergenic:CITF22-49D8.1-LL22NC03-75H12.2 show all...
1413 / fw	AGGGAGGCCTGATTGGTGT TGG Cloning / PCR primers	44	85	39	60	33	55	67	0 - 1 - 4 - 14 - 170 0 - 1 - 1 - 0 - 1 189 off-targets	1:inton:BRCA1 4:intergenic:AC019055.1-CISD1P1 4:intergenic:RP11-460H9.1-LINC00290 show all...
226 / rev	CGCGGGCGAGTGTGGGCTG GGG ⚠ High GC content Enzymes: <i>Fsp4HI, ApeKI, MwoI</i> Cloning / PCR primers	43	67	38	84	-54	56	72	0 - 0 - 4 - 30 - 343 0 - 0 - 0 - 8 - 11 377 off-targets	3:inton:AP001471.1 4:inton:RP11-59J16.1 4:exon:LTBP3 show all...
527 / fw	GTGGGGTTCTCAGATAACT GGG Enzymes: <i>EcoO109I, BshFI, BaeGI, BmlI, NlaIV, Eco24I, Bsp1286I, Bsp120I, Bse1I, PspPI</i> Cloning / PCR primers	43	89	49	43	-33	66	81	1 - 1 - 0 - 14 - 99 1 - 0 - 0 - 3 - 2 115 off-targets	0:exon:BRCA1 1:inton:NR6A1 4:intergenic:SPPL3-ARF1P2 show all...
178 / fw	CGAGGAAGCTAACGCCCGCT TGG Enzymes: <i>SsiI, BspFNI, AsuHPI, Fsp4HI, Taul, MwoI, BstII</i> Cloning / PCR primers	42	91	45	57	-7	67	79	1 - 1 - 3 - 4 - 60 1 - 0 - 0 - 0 - 0 69 off-targets	0:intergenic:AC016739.2-AC016739.1 2:exon:TTC19/RPLP1P11 2:exon:RP11-54C4.1 show all...
179 / fw	GAGGAAGCTAACGCCCGCTT GGG ⚠ Inefficient Enzymes: <i>BspFNI, AsuHPI, BstII</i> Cloning / PCR primers	42	93	38	88	17	67	83	1 - 1 - 4 - 7 - 78 1 - 0 - 0 - 0 - 0 91 off-targets	0:intergenic:AC016739.2-AC016739.1 2:exon:TTC19/RPLP1P11 2:exon:RP11-54C4.1 show all...
377 / fw	GTGTAAATATTGAAACTTTT TGG ⚠ Not with U6/U3 ⚠ Inefficient ⚠ Low GC content Enzymes: <i>LpnPI, BshFI, BstNI, StyD4I</i> Cloning / PCR primers	42	67	21	29	-232	65	79	0 - 2 - 10 - 58 - 369 0 - 1 - 2 - 1 - 17 439 off-targets	3:inton:ZCHC11 4:inton:ZNF280D 4:intergenic:RP11-354I13.2-RP11-354I13.1 show all...
402 / fw	TGGCTTGGTGTCAAAGGTCC TGG Enzymes: <i>PpuMI, EcoO109I, LpnPI, BshFI, Acol, Ball, PspPI, BstNI, StyD4I, Bme18I</i> Cloning / PCR primers	42	82	42	45	-73	60	71	0 - 5 - 5 - 23 - 136 0 - 1 - 1 - 1 - 9 169 off-targets	4:intergenic:RP3-418C23.2-RP1-104O17.1 3:inton:BANP 2:intergenic:PCDH8-OLFM4 show all...
532 / rev	GGTGCAGGCCCTCCTGAGGCC AGG Enzymes: <i>PasI, Bpu10I, EcoO109I, LpnPI, BshFI, BaeGI, NlaIV, BseDI, Eco24I, Bsp1286I, Bsp120I, PspPI, BstNI, StyD4I, MwoI</i> Cloning / PCR primers	42	65	38	44	12	65	75	0 - 0 - 4 - 50 - 387 0 - 0 - 0 - 6 - 13 441 off-targets	3:intergenic:CTD-2029E14.1-LINC01019 3:intergenic:ST18-FAM150A 4:inton:DPYD show all...
1201 / rev	CCCCCTCCCAGACATATTCC TGG ⚠ Inefficient Enzymes: <i>LpnPI, BstNI, StyD4I</i> Cloning / PCR primers	42	84	37	9	-76	71	77	1 - 0 - 3 - 27 - 192 1 - 0 - 0 - 1 - 2 223 off-targets	0:inton:BRCA1 3:inton:RG59 3:inton:GLIPR1L2 show all...
1214 / fw	AGAAGTGCCAGGAATATGTC TGG Cloning / PCR primers	42	83	46	25	-2	62	76	0 - 1 - 4 - 23 - 190 0 - 1 - 1 - 2 - 2 218 off-targets	3:exon:GBE1 1:inton:BRCA1 4:intergenic:GLI3-AC027269.2 show all...
1215 / fw	GAAGTGCCAGGAATATGTC TGG Cloning / PCR primers	42	81	64	38	65	61	71	0 - 1 - 1 - 34 - 191 0 - 1 - 0 - 1 - 0 227 off-targets	3:intergenic:DCAF8L1-AC078988.1 1:inton:BRCA1 4:intergenic:MAPRE3-AC013472.4 show all...
1261 / fw	GGGAGGGAGAACTTAAGAAC TGG Enzymes: <i>NdeI, MflI, NlaIV, BamHI, Bse1I, BspPI</i> Cloning / PCR primers	42	82	48	54	36	71	74	1 - 0 - 5 - 19 - 266 1 - 0 - 0 - 0 - 3 291 off-targets	0:inton:BRCA1 4:intergenic:LINC00382-SPRY2 4:intergenic:ATP5F1P1-WDFY2 show all...
1347 / fw	TGCCGGCAGGGATGTGCTTG AGG ⚠ Inefficient Enzymes: <i>BpuEI, Smol</i> Cloning / PCR primers	42	87	50	43	-21	63	73	1 - 0 - 0 - 6 - 151 1 - 0 - 0 - 2 - 5 158 off-targets	0:inton:BRCA1 4:exon:SYTL1 4:intergenic:PKD2L1-RP11-34D15.2 show all...
1492 / rev	GCTACAGGGGAGTGAATGAC CGG Enzymes: <i>MspI, LpnPI, NciI, StyD4I</i> Cloning / PCR primers	42	88	54	55	-5	62	87	0 - 1 - 1 - 19 - 120 0 - 1 - 0 - 2 - 4 141 off-targets	1:inton:BRCA1 3:intergenic:RP1-118J21.24-TRIT1 4:inton:WWOX show all...
142 / fw	CCTTCCTCGGCTGCCGCCA AGG Enzymes: <i>SsiI, ErhI, BseDI, Fsp4HI, Taul</i> Cloning / PCR primers	41	79	42	56	-33	48	63	0 - 1 - 8 - 16 - 132 0 - 0 - 0 - 0 - 0 157 off-targets	1:exon:RPLP1 2:intergenic:RP11-435F13.2-RGS7 4:intergenic:PPP5C-CCDC8 show all...
1471 / fw	AAGAAAACAGCCAGAACAT TGG Cloning / PCR primers	41	67	48	42	-5	67	68	0 - 2 - 11 - 58 - 551 0 - 0 - 1 - 4 - 9 622 off-targets	More than 500 off-targets, showing 9 with score >1.0 🚨 2:inton:BRCA1 1:inton:SMARCA2 4:inton:PTGFR show all...
180 / fw	AGGAAGCTAAGGCCCGCTTG GGG Enzymes: <i>AsuHPI, BstII</i> Cloning / PCR primers	40	85	71	66	68	76	80	1 - 3 - 2 - 8 - 77 1 - 1 - 0 - 0 - 0 91 off-targets	0:intergenic:AC016739.2-AC016739.1 2:intergenic:RP11-395C3.1-C5orf48 2:exon:RP11-54C4.1 show all...
1434 / fw	GGTTGGTCGTTGTTGATTT TGG ⚠ Inefficient Cloning / PCR primers	40	82	34	47	-136	58	73	1 - 0 - 0 - 19 - 196 1 - 0 - 0 - 0 - 0 216 off-targets	0:inton:BRCA1 4:inton:BRWD3 4:intergenic:RP5-921G16.1-SSU72P8 show all...
264 / rev	AGAGTAGATGCAGGCAAGCT GGG Enzymes: <i>AluBI, BstC8I</i>	39	86	46	53	42	59	85	0 - 1 - 7 - 17 - 171	1:inton:RIF1 3:exon:RP4-612B18.1 4:exon:RP11-54C4.1

597 / fwEnzymes: EcoO109I, BshFI, BaeGI, NlaIV, Eco24I, Bsp1286I, Bsp120I, PspPI, BsiFI Cloning / PCR primers	34	69	52	37	34	63	73	0 - 1 - 7 - 38 - 322 0 - 1 - 2 - 3 - 17 368 off-targets	4:inton:VGLL4 1:exon:BRCA1 show all...
598 / fw	GAGCCCCGGGAAAGGGACAG GGGEnzymes: EcoO109I, BshFI, BaeGI, NlaIV, Eco24I, Bsp1286I, Bsp120I, PspPI, BsiFI Cloning / PCR primers	34	69	56	65	51	60	68	0 - 1 - 6 - 44 - 298 0 - 1 - 2 - 6 - 13 349 off-targets	1:exon:BRCA1 2:inton:MAGED4B 2:inton:MAGED4 show all...
1244 / fw	AGGAGACAGGATTTGTGGG AGG ⚠ Not with U6/U3 Cloning / PCR primers	34	70	44	65	-61	71	85	1 - 0 - 5 - 44 - 431 1 - 0 - 3 - 1 - 7 481 off-targets	0:inton:BRCA1 3:inton:PLXNC1 3:intergenic:RNU6-443P-AC083760.1 show all...
1221 / fw	CCAGGAATATGCTGGGAGA GGGEnzymes: BseRI Cloning / PCR primers	33	65	56	59	40	60	67	1 - 0 - 7 - 45 - 297 1 - 0 - 1 - 1 - 8 350 off-targets	0:inton:BRCA1 2:intergenic:SNHG18-CTD-2001E22.1 3:intergenic:AC097658.1/GAB1-MIR3139 show all...
1241 / fw	GGGAGGAGACAGGATTTGT GGG ⚠ Not with U6/U3 ⚠ Inefficient Cloning / PCR primers	33	67	43	38	-88	72	76	1 - 0 - 6 - 46 - 493 1 - 0 - 2 - 5 - 2 546 off-targets	More than 500 off-targets, showing 13 with score >1.0 🚨 0:inton:BRCA1 2:intergenic:SNX18-AC112198.1 4:intergenic:RNU6-1200P-RP11-384F7.2 show all...
605 / fw	GGGAAAGGGACAGGGGCCA AGGEnzymes: EcoO109I, BshFI, BaeGI, Erhl, NlaIV, BseDI, Eco24I, Bsp1286I, Bsp120I, PspPI, BtsCI Cloning / PCR primers	32	56	45	69	20	62	73	0 - 1 - 10 - 104 - 651 0 - 1 - 1 - 4 - 6 766 off-targets	More than 500 off-targets, showing 6 with score >2.0 🚨 2:inton:SYT7 3:intergenic:KIAA0930-CTA-268H5.14 3:intergenic:ARL4C-AC010148.1 show all...
1224 / fw	GGAATATGCTGGGAAAGGG AGGEnzymes: BseRI Cloning / PCR primers	32	64	57	57	25	64	65	1 - 1 - 1 - 42 - 285 1 - 0 - 0 - 4 - 9 330 off-targets	0:inton:BRCA1 4:exon:MLLT11/CDC42SE1 4:intergenic:RP5-855F16.1-PHF14 show all...
1368 / fw	GGGGGATCCTGAGATGAGAG TGG Cloning / PCR primers	31	64	63	51	12	66	86	0 - 1 - 5 - 66 - 371 0 - 1 - 0 - 11 - 11 443 off-targets	1:inton:CHST7 4:intergenic:SLC25A37/FP15737-RNU4-71P 3:intergenic:RP11-266O8.1:RP11-164C12.2 show all...
232 / rev	CCATAGCGCGGGCGAGTGTG GGG Cloning / PCR primers	30	91	53	73	66	60	89	0 - 3 - 1 - 3 - 38 0 - 3 - 0 - 0 - 1 45 off-targets	1:exon:AC008753.3 1:exon:RP11-54C4.1 2:exon:RPLP1 show all...
234 / rev	GCCCATAAGCGGGGGAGTC TGG Cloning / PCR primers	30	93	42	50	-52	62	80	0 - 4 - 1 - 5 - 49 0 - 4 - 0 - 0 - 0 59 off-targets	1:exon:RP11-7F17.1 1:exon:AC008753.3 1:exon:RP11-54C4.1 show all...
382 / fw	AATATTGAAACTTTTGGCC TGG ⚠ Not with U6/U3 ⚠ Inefficient Enzymes: LpnPI, BshFI, BstNI, StyD4I Cloning / PCR primers	30	47	42	4	-163	78	84	0 - 0 - 9 - 83 - 605 0 - 0 - 2 - 11 - 13 697 off-targets	More than 500 off-targets, showing 11 with score >2.0 🚨 3:intergenic:CCDC144A-CCDC144A/RP11-219A15.1 3:inton:CCDC144B 3:intergenic:CTD-2145A24.3-AC107982.4 show all...
213 / rev	GGGGCTGGGCTGCCGGACG CGGT. ⚠ High GC content Enzymes: BspFNI, HgaI Cloning / PCR primers	29	72	39	93	-11	55	65	0 - 3 - 5 - 100 - 791 0 - 0 - 1 - 1 - 0 899 off-targets	More than 500 off-targets, showing 22 with score >0.5 🚨 2:inton:SEMA4C 1:intergenic:RP11-435F13.2-RGS7 1:exon:TTC19/RPLP1P11 show all...
1548 / fw	GAGAAAGGAAAAGACCCAA GGGGEnzymes: BstXI Cloning / PCR primers	29	52	66	84	32	67	76	0 - 3 - 21 - 107 - 766 0 - 1 - 2 - 21 - 9 897 off-targets	More than 500 off-targets, showing 18 with score >1.0 🚨 1:inton:BRCA1 3:inton:EFCAB14 3:intergenic:RP11-96C21.1-RP11-64K10.1 show all...
233 / rev	GCCATAGCGCGGGCGAGTGT GGG Cloning / PCR primers	28	93	42	46	19	60	76	0 - 4 - 1 - 5 - 23 0 - 4 - 0 - 1 - 0 33 off-targets	1:exon:RP11-7F17.1 1:exon:RPLP1 1:exon:AC008753.3 show all...
405 / rev	GTGGCTCCAATGTTGACGT TGGT..... Enzymes: Maell, LpnPI, BshFI, Hpy166II, HincII, Acol, Ball, BstNI, StyD4I Cloning / PCR primers	28	89	67	51	79	61	61	0 - 2 - 4 - 10 - 113 0 - 2 - 1 - 1 - 22 129 off-targets	1:exon:RPLP1 1:exon:AC016739.2 2:exon:RP11-54C4.1 show all...
419 / fw	TCTTGGCCAACGTCAACATT GGGT..... ⚠ Inefficient Enzymes: NlaIV Cloning / PCR primers	28	91	43	44	-42	60	71	0 - 3 - 2 - 7 - 81 0 - 3 - 0 - 0 - 0 93 off-targets	1:exon:RPLP1 1:exon:AC016739.2 2:exon:RP11-120J4.1 show all...
563 / fw	GAGGCCTGCACCCTCTGTC TGGT..... Enzymes: Tru1I, MwoI, BstAPI Cloning / PCR primers	28	79	25	32	8	74	75	0 - 2 - 3 - 47 - 230 0 - 2 - 0 - 7 - 11 282 off-targets	1:intergenic:AC090841.1-ATP2B2 4:intergenic:RP11-131N11.4-CDK1 1:exon:BRCA1 show all...
1645 / rev	AGGTAAATTAAAGATTTGGA AGG Cloning / PCR primers	28	64	56	22	-44	68	74	0 - 1 - 5 - 46 - 336 0 - 1 - 1 - 6 - 19 388 off-targets	1:inton:BRCA1 2:inton:TNRC6A 4:intergenic:AC079448.1-COL28A1 show all...
115 / fw	TTACAGATAAATTAAAACTG TGG ⚠ Low GC content Enzymes: NlaIV, HpyCH4III Cloning / PCR primers	27	45	69	22	52	77	79	1 - 1 - 24 - 129 - 660 1 - 0 - 8 - 16 - 17 815 off-targets	More than 500 off-targets, showing 9 with score >2.0 🚨 2:intergenic:RIT2-SYT4 2:intergenic:RPL32P14-RP11-124N3.3 2:intergenic:RP11-555G19.1-AP003062.1 show all...
1240 / fw	GGGGAGGAGACAGGATTTG TGGT..... ⚠ Not with U6/U3 ⚠ Inefficient Cloning / PCR primers	27	57	47	55	-98	72	80	1 - 1 - 13 - 53 - 649 1 - 0 - 3 - 5 - 12 717 off-targets	More than 500 off-targets, showing 20 with score >1.0 🚨 0:inton:BRCA1 3:intergenic:TMEM14B-MAK 2:exon:ZDHHC12 show all...
1547 / fw	GGAGAAAGGAAAAGACCCAA AGGG..	27	55	65	46	60	69	87	2 - 0 - 26 - 91 -	More than 500 off-targets, showing 19 with score >1.0 🚨 0:inton:BRCA1

	Enzymes: <i>BstXI</i> Cloning / PCR primers							585 2 - 0 - 2 - 7 - 13 704 off-targets	3:inton:FREM2 2:exon:CTC-558O2.1 show all...	
1966 / rev	AAAAATAAGGTAATTGGGCT GGG Cloning / PCR primers	27	49	45	38	-47	88	81	0 - 1 - 9 - 105 - 879 0 - 0 - 1 - 2 - 3 994 off-targets	More than 500 off-targets, showing 10 with score >2.0 🚫 2:intergenic:ZSWIM5-HPDL 3:inton:ARHGEF10L 3:intergenic:NLRP12-AC008753.6 show all...
1245 / fw	GGAGACAGGATTTGTGGGA GGG ⚠ Not with U6/U3 Cloning / PCR primers	26	61	50	46	-16	69	75	1 - 1 - 4 - 46 - 370 1 - 1 - 0 - 4 - 7 422 off-targets	0:inton:BRCA1 1:inton:TSPY14P 3:inton:C20orf112 show all...
1505 / rev	CAAGAAAGAGAAAGCTACAG GGG Enzymes: <i>Bfml</i> Cloning / PCR primers	26	52	60	57	84	67	74	1 - 1 - 15 - 99 - 716 1 - 0 - 0 - 11 - 11 832 off-targets	More than 500 off-targets, showing 23 with score >1.0 🚫 0:inton:BRCA1 4:inton:RP11-690J15.1 4:intergenic:RN7SL126P-VAMP8 show all...
1533 / fw	GCTTCTCTTCTGGAGAA AGG Cloning / PCR primers	26	48	46	42	-83	64	88	1 - 0 - 12 - 82 - 604 1 - 0 - 3 - 10 - 16 699 off-targets	More than 500 off-targets, showing 24 with score >1.0 🚫 0:inton:BRCA1 3:intergenic:RPL21P17-RP11-204C23.1 3:inton:TNK show all...
1967 / rev	TAAAATAAGGTAATTGGGC TGG Cloning / PCR primers	26	40	33	-7	-99	88	79	0 - 2 - 5 - 92 - 849 0 - 1 - 2 - 3 - 4 948 off-targets	More than 500 off-targets, showing 12 with score >1.0 🚫 1:intergenic:AL138963.1-SNORA31 2:intergenic:U95743.1-ERCC4 1:inton:TMEM71 show all...
10 / rev	AGACACAGTCAGAGGAAGGG CGG Enzymes: <i>BsIFI</i> Cloning / PCR primers	25	41	64	48	63	70	79	0 - 1 - 16 - 116 - 830 0 - 0 - 4 - 7 - 7 963 off-targets	More than 500 off-targets, showing 28 with score >1.0 🚫 2:intergenic:RP11-575M4.1-WBSCR17 3:intergenic:Y_RNA-RP11-715C4.1 3:inton:ARFGEF1 show all...
160 / fw	CAAGGTGTCGGTCCTTCGG AGG Enzymes: <i>AluBl, BseDl, Hpy188I, HpyAV, PcsI</i> Cloning / PCR primers	24	89	62	62	57	47	81	1 - 2 - 3 - 4 - 44 1 - 2 - 1 - 0 - 0 54 off-targets	0:intergenic:RN7SL356P-RP11-7F17.1 1:exon:RPLP1 1:intergenic:SEPT7P8-AC008753.3 show all...
201 / fw	GGTGAGACCTCACTTCATC CGG Enzymes: <i>MspI, LpnPI, BsaWI, AsuHPI</i> Cloning / PCR primers	23	88	52	36	-55	65	62	1 - 4 - 6 - 14 - 89 1 - 4 - 4 - 1 - 2 114 off-targets	0:intergenic:SEC23A-RP11-545M17.2 1:exon:RPLP1 3:intergenic:MAP7-RP3-406A7.3 show all...
418 / fw	GTCCTGGCCAACGTCAACAT TGG Enzymes: <i>Hpy166II, NlaIV, HinclI</i> Cloning / PCR primers	23	93	51	48	20	59	64	0 - 3 - 5 - 9 - 43 0 - 3 - 0 - 0 - 0 60 off-targets	1:exon:RPLP1 1:exon:AC016739.2 1:exon:RP11-54C4.1 show all...
1971 / rev	ATTTTAAAAATAAGGTAATT GGG ⚠ Not with U6/U3 ⚠ Low GC content Enzymes: <i>MluCI</i> Cloning / PCR primers	23	45	33	29	-167	79	77	0 - 1 - 39 - 200 - 1453 0 - 0 - 1 - 7 - 11 1693 off-targets	More than 500 off-targets, showing 30 with score >1.0 🚫 1:inton:KYNU 2:inton:NCOR1P3 2:inton:ABCA13 show all...
400 / rev	TCCCAATGTTGACGTTGCC AGG ⚠ Inefficient Enzymes: <i>PpuMI, EcoO109I, LpnPI, BshFI, Acl, Ball, PspPI, BstNI, StyD4I, Bme18I</i> Cloning / PCR primers	22	86	51	26	-76	61	73	2 - 3 - 2 - 10 - 77 2 - 1 - 0 - 0 - 2 94 off-targets	0:exon:RPLP1 0:exon:AC016739.2 1:exon:RP11-54C4.1 show all...
1397 / fw	GGGAAAGGCTAGGGGCAGGG AGG Enzymes: <i>BshFI, PceI</i> Cloning / PCR primers	22	33	53	67	10	66	82	0 - 1 - 28 - 152 - 1044 0 - 0 - 10 - 3 - 16 1225 off-targets	More than 500 off-targets, showing 10 with score >2.0 🚫 2:intergenic:RP11-664H7.2-RP11-876F14.2 2:intergenic:RNU1-141P-RRP15 3:intergenic:PKDCC-AC083949.1 show all...
1526 / fw	CCCTGTAGCTTCTCTTCT TGG ⚠ Inefficient Cloning / PCR primers	22	62	11	29	-184	68	80	0 - 3 - 8 - 54 - 385 0 - 2 - 3 - 11 - 28 450 off-targets	1:inton:BRCA1 3:intergenic:C14orf105-SLC35F4 3:intergenic:USP2-AS1-KRT8P7 show all...
157 / rev	CAACCGGCCCTAGCTTCTT CCG ⚠ Inefficient Enzymes: <i>MnlI, BseDl, Hpy188I</i> Cloning / PCR primers	21	51	47	57	-114	47	69	1 - 3 - 5 - 18 - 337 1 - 2 - 3 - 4 - 11 364 off-targets	0:intergenic:AC016739.2-AC016739.1 1:exon:RPLP1 1:exon:TC19/RPLP1P11 show all...
273 / rev	AATGAGGGCAGAGTAGATGC AGG Enzymes: <i>HpyCH4V, BstC8I</i> Cloning / PCR primers	21	69	56	58	117	60	75	0 - 4 - 10 - 37 - 323 0 - 0 - 1 - 1 - 5 374 off-targets	4:inton:ABCB7 1:exon:RP11-7F17.1 2:inton:RIF1 show all...
380 / rev	AGGACCTTGCAAACAAGCC AGG ⚠ Inefficient Enzymes: <i>LpnPI, BshFI, BstNI, StyD4I</i> Cloning / PCR primers	21	84	55	30	-72	83	86	0 - 3 - 6 - 30 - 141 0 - 3 - 4 - 5 - 2 180 off-targets	1:exon:RP4-612B18.1 1:exon:AC016739.2 1:inton:EHHADH show all...
153 / rev	GCGGCCTTAGCTTCCCTCGGA AGG Enzymes: <i>TaqII, BseDl, PspPI, Hpy188I, Bme18I, PcsI</i> Cloning / PCR primers	20	89	60	40	4	45	69	1 - 3 - 4 - 5 - 46 1 - 2 - 3 - 1 - 1 59 off-targets	0:intergenic:AC016739.2-AC016739.1 1:exon:RP11-54C4.1 2:intergenic:RNU5E-7P-RP11-120J4.1 show all...
169 / fw	CGGTCCCTCCGAGGAAGCTA AGG Enzymes: <i>BshFI, SsiI, AluBl, BspFNI, Fsp4HI, BstDEI, Taul, MwoI</i> Cloning / PCR primers	17	88	50	33	23	50	61	3 - 3 - 1 - 10 - 38 3 - 2 - 0 - 2 - 0 55 off-targets	0:intergenic:RN7SL356P-RP11-7F17.1 0:exon:RPLP1 0:intergenic:AC016739.2-AC016739.1 show all...
1231 / fw	GTCTGGGAAGGGGAGGAGAC AGG Enzymes: <i>BseRI</i> Cloning / PCR primers	16	43	54	53	-49	74	84	1 - 0 - 21 - 172 - 1093 1 - 0 - 1 - 13 - 31 1287 off-targets	More than 500 off-targets, showing 7 with score >2.0 🚫 0:inton:BRCA1 2:intergenic:RP11-680E19.2-GUCY1A2 3:intergenic:ARHGAP19-SLT1/ARHGAP19 show all...
2022 / rev	AAAACATGTATTTAAAA AGG	16	33	26	23	-216	66	81	0 - 2 - 49 -	More than 500 off-targets, showing 12 with score >2.0 🚫 3:intergenic:RP11-308N19.5-RNA5SP29

	⚠ Not with U6/U3 ⚠ Low GC content Enzymes: <i>Tru1I</i> , <i>DraI</i> Cloning / PCR primers						332 - 1136 0 - 0 - 18 - 43 - 58 1519 off-targets	2:inton:AC064865.1 3:inton:TTC6 show all...
219 / rev	GAGTGTGGGCTGGGCTGC CGG Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BspFNI</i> , <i>Fsp4HI</i> , <i>Hgal</i> , <i>ApeKI</i> , <i>MwoI</i> Cloning / PCR primers	15	41	32	76	-60	59 62 0 - 3 - 26 - 185 - 1225 0 - 0 - 3 - 24 - 46 1439 off-targets	More than 500 off-targets, showing 22 with score >2.0 🌟 2:intergenic:PRR25-LMF1 2:intergenic:AC007249.3-NOL10 3:inton:ST6GAL1 show all...
1026 / fw	GTGGCGCGGCCAGCTACTC AGG Enzymes: <i>AluBI</i> , <i>Hpy18III</i> , <i>BstDEI</i> , <i>BspCNI</i> , <i>AlwNI</i> Cloning / PCR primers	13	44	36	62	-54	75 74 0 - 6 - 58 - 143 - 267 0 - 5 - 16 - 5 - 2 474 off-targets	2:intergenic:AC004895.4-USP42 3:intergenic:H19-IGF2/AC132217.4/INS-IGF2 3:intergenic:ANAPC4-RP11-206P5.1 show all...
396 / fw	TTGGCCTGGCTTGGCAA AGG Enzymes: <i>PpuMI</i> , <i>EcoO109I</i> , <i>LpnPI</i> , <i>HpyCH4V</i> , <i>PspPI</i> , <i>Bme18I</i> Cloning / PCR primers	10	52	47	61	-59	80 79 5 - 5 - 7 - 54 - 1669 5 - 3 - 0 - 2 - 1 1740 off-targets	More than 500 off-targets, showing 21 with score >1.0 🌟 0:exon:RP4-612B18.1 0:exon:RP11-435F13.2 0:exon:RPLP1 show all...
1961 / rev	AAGGTAAATTGGGCTGGCG TGG Cloning / PCR primers	6	17	47	57	-66	74 81 0 - 1 - 60 - 377 - 2112 0 - 0 - 15 - 65 - 145 2550 off-targets	More than 500 off-targets, showing 1 with score >10.0 🌟 1:inton:UTRN
1034 / fw	CGCCAGCTACTCAGGAGCTG AGG Enzymes: <i>AluBI</i> , <i>BstDEI</i> , <i>AlwNI</i> Cloning / PCR primers	3	13	53	39	28	62 74 0 - 9 - 247 - 679 - 1996 0 - 8 - 207 - 80 - 16 2931 off-targets	More than 500 off-targets, showing 9 with score >10.0 🌟 1:inton:CTC-419K13.1 1:intergenic:RP11-34F13.3-RP11-282M16.1 1:inton:MAP2K5 show all...
1958 / rev	GTAAATTGGCTGGCGTGG TGG Cloning / PCR primers	1	3	51	62	25	67 50 1 - 15 - 220 - 1629 - 10006 1 - 12 - 141 - 724 - 2308 11871 off-targets	More than 500 off-targets, showing 16 with score >10.0 🌟 1:inton:MYOF 1:inton:MND1 1:inton:AC009499.1 show all...
864 / rev	CAGGCGTAAGCCACCATCCC CGG Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>BseDI</i> , <i>NciI</i> , <i>BclI</i> , <i>StyD4I</i>	0	0	52	56	18	70 82 Repeat ⓘ	
883 / rev	TCCCCAAGTGCTAGGAATAC AGG	0	0	47	39	-41	75 70 Repeat ⓘ	
891 / rev	CCTTGGCCTCCCAAAGTGCT AGG Enzymes: <i>MaeI</i>	0	0	55	44	6	73 84 Repeat ⓘ	
901 / fw	CGCCTGTATTCCCTAGCACTT TGG ⚠ Inefficient	0	0	42	27	-111	67 78 Repeat ⓘ	
902 / fw	GCCTGTATTCCCTAGCACTTT GGG ⚠ Inefficient Enzymes: <i>BshFI</i>	0	0	26	46	-144	67 78 Repeat ⓘ	
905 / fw	TGTATTCCCTAGCACTTTGGG AGG Enzymes: <i>BshFI</i>	0	0	67	36	50	65 82 Repeat ⓘ	
908 / rev	ACCTCGTATCCATCCGCCCT TGG ⚠ Inefficient Enzymes: <i>BshFI</i> , <i>Ssil</i> , <i>MnlI</i> , <i>ErhI</i> , <i>BseDI</i>	0	0	45	38	-43	54 68 Repeat ⓘ	
911 / fw	CCTAGCACTTGGGAGGCCA AGG Enzymes: <i>BshFI</i> , <i>EciI</i> , <i>ErhI</i> , <i>BseDI</i>	0	0	51	46	-54	54 63 Repeat ⓘ	
914 / fw	AGCACTTGGGAGGCCAAGG CGG Enzymes: <i>EciI</i> , <i>ErhI</i> , <i>BseDI</i> , <i>BtsCI</i>	0	0	65	76	36	58 59 Repeat ⓘ	
918 / fw	CTTGGGAGGCCAAGGCCA TGG Enzymes: <i>NdeI</i> , <i>EciI</i> , <i>BtsCI</i> , <i>BspPI</i>	0	0	43	59	-3	73 68 Repeat ⓘ	
927 / fw	GCCAAGCGGGATGGATCACG AGG Enzymes: <i>BssSI</i> , <i>Hpy18III</i>	0	0	65	54	85	70 75 Repeat ⓘ	
932 / fw	GGCGGATGGATCACGAGGTC AGG Enzymes: <i>Hpy18III</i>	0	0	47	68	-42	76 83 Repeat ⓘ	
944 / rev	TTTCACACAGATGGTCAGGC TGG Enzymes: <i>BspTNI</i> , <i>BcoDI</i>	0	0	53	19	-57	67 69 Repeat ⓘ	
948 / rev	GGGGTTCACACAGATGGTC AGG Enzymes: <i>Hpy18III</i>	0	0	48	61	0	65 63 Repeat ⓘ	
953 / rev	GAGACGGGTTTCACCAAGCA TGG Enzymes: <i>SmiMI</i>	0	0	69	80	50	59 75 Repeat ⓘ	
959 / fw	CGAGACCAGCCTGACCATCG TGG Enzymes: <i>AsuHPI</i> , <i>BclI</i> , <i>SmiMI</i>	0	0	71	51	86	61 78 Repeat ⓘ	
967 / rev	TTGTATTTTAGTAGAGAC GGG ⚠ Not with U6/U3	0	0	63	42	-94	73 81 Repeat ⓘ	
968 / rev	TTTGTATTTTAGTAGAGAC GGG ⚠ Not with U6/U3	0	0	44	40	-154	72 86 Repeat ⓘ	
969 / rev	TTTTGTATTTAGTAGAGA CGG ⚠ Not with U6/U3 ⚠ Low GC content	0	0	45	34	-263	70 88 Repeat ⓘ	
997 / rev	CTGGCGCGGCCACCGCC CGG ⚠ High GC content Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>NciI</i> , <i>StyD4I</i>	0	0	39	69	-69	73 72 Repeat ⓘ	
998 / fw	CTAAAAATACAAAAATTAGCC CGG ⚠ Low GC content Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>NciI</i> , <i>StyD4I</i>	0	0	49	0	-129	72 84 Repeat ⓘ	
999 / fw	AAAAAATACAAAAATTAGCC GGG ⚠ Inefficient ⚠ Low GC content Enzymes: <i>MspI</i> , <i>LpnPI</i> , <i>NciI</i> , <i>StyD4I</i>	0	0	59	12	-131	73 82 Repeat ⓘ	

1004 / fw	ATACAAAAATTAGCCGGCGC TGG Enzymes: <i>NciI, StyD4I</i>	0	0	52	40	-66	61	88	Repeat ⓘ	
1007 / fw	CAAAAATTAGCCGGCGTGG TGG Enzymes: <i>HinP1I, BspFNI, BstC8I, BssHII</i>	0	0	61	41	-7	57	72	Repeat ⓘ	
1016 / rev	TGCCTCAGTCCTGAGTAGC TGG Enzymes: <i>AluB1I, HinP1I, BspFNI, BstC8I, BssHII</i> Cloning / PCR primers	0	6	41	23	-76	67	78	149 - 428 - 1293 - 2263 - 3154 149 - 110 - 119 - 114 - 269 7287 off-targets	More than 1000 off-targets, showing only top 30 ⓘ 0:exon: <i>C1orf222</i> 0:intergenic: <i>WNT4-MIR4418</i> 0:intergenic: <i>FTLP18-RP4-614N24.1</i> show all...
1038 / fw	AGCTACTCAGGAGCTGAGGC AGG Enzymes: <i>BstDEI</i> Cloning / PCR primers	0	4	44	25	7	71	64	147 - 431 - 1303 - 2201 - 3503 147 - 57 - 12 - 13 - 20 7585 off-targets	More than 1000 off-targets, showing only top 30 ⓘ 0:exon: <i>C1orf222</i> 0:intergenic: <i>FTLP18-RP4-614N24.1</i> 0:inttron: <i>SERBP1</i> show all...
1054 / rev	CACTGCACACTCCGCCTCC GGG ⚠ Inefficient Enzymes: <i>LpnPI, MnlI, BseDI, BstNI, StyD4I, AgsI, BslI</i>	0	0	40	45	-101	82	55	Repeat ⓘ	
1055 / rev	TCACTGCACACTCCGCCTCC TGG Enzymes: <i>LpnPI, MnlI, BseDI, BstNI, StyD4I, BslI</i>	0	0	33	15	-43	81	70	Repeat ⓘ	
1057 / fw	CAGGAGAATCGCTTGAAACCC AGG Enzymes: <i>LpnPI, BseDI, BstNI, StyD4I</i>	0	0	53	41	102	82	81	Repeat ⓘ	
1060 / fw	GAGAACGCTTGAACCCAGG AGG Enzymes: <i>LpnPI, EcI, BseDI, BstNI, StyD4I, BslI</i>	0	0	68	75	87	61	83	Repeat ⓘ	
1063 / fw	AATCGCTTGAACCCAGGAGG CGG Enzymes: <i>EcI, BslI</i>	0	0	58	59	91	59	48	Repeat ⓘ	
1066 / fw	CGCTTGAAACCCAGGAGGG AGG Enzymes: <i>HpyCH4V, EcI, MwoI, BslI</i>	0	0	47	52	16	58	55	Repeat ⓘ	
1079 / rev	GGAGTGCAATGGCGCGATCT CGG ⚠ Inefficient Enzymes: <i>NdeI, MwoI</i>	0	0	47	53	11	64	73	Repeat ⓘ	
1090 / rev	CCACCCAGGCTGGAGTGC A TGG Enzymes: <i>HinP1I, BspFNI, HpyCH4V, BseMI</i>	0	0	56	38	33	77	82	Repeat ⓘ	
1100 / rev	TGTCGTTCTGCCACCCAGGC TGG Enzymes: <i>LpnPI, BpmI, BseDI, BstNI, StyD4I, MwoI, BglI</i>	0	0	40	55	-66	84	81	Repeat ⓘ	
1104 / rev	GGAGTGTGTTCTGCCACCC AGG Enzymes: <i>LpnPI, BseDI, BstNI, StyD4I, MwoI, BglI</i>	0	0	49	61	84	64	77	Repeat ⓘ	
1106 / fw	CGCGCCATTGCACTCCAGCC TGG ⚠ Inefficient Enzymes: <i>LpnPI, BseDI, BstNI, StyD4I, MwoI, BglI</i>	0	0	36	50	-64	65	89	Repeat ⓘ	
1107 / fw	GCGCCCATTGCACTCCAGCC TGG ⚠ Inefficient Enzymes: <i>LpnPI, BseDI, BstNI, StyD4I, MwoI, BglI</i>	0	0	53	46	-31	64	80	Repeat ⓘ	
1110 / fw	CCATTGCACTCCAGCCTGGG TGG Enzymes: <i>LpnPI, BseDI, BstNI, StyD4I, MwoI, BglI</i>	0	0	60	69	3	60	83	Repeat ⓘ	
1125 / rev	TTCTTTGTTGTTTTGAGA CGG ⚠ Not with U6/U3 Enzymes: <i>TspGWI</i>	0	0	43	25	-205	62	75	Repeat ⓘ	
1156 / fw	ACAAACAAAGAAATAAACAC CGG Enzymes: <i>MspI, LpnPI, Cfr10I</i>	0	0	68	32	87	60	78	Repeat ⓘ	
1665 / rev	AAAAATAAAATAAAATA AGG ⚠ Low GC content	0	0	36	12	-123	69	83	Repeat ⓘ	
1693 / fw	TATTTTATTTATTTGAGA CGG ⚠ Not with U6/U3 ⚠ Low GC content Enzymes: <i>AluB1I, TspGWI</i>	0	0	50	15	-182	64	75	Repeat ⓘ	
1712 / rev	ACGCCATTACACTCCAGCCT GGG ⚠ Inefficient Enzymes: <i>LpnPI, BseDI, BstNI, StyD4I</i>	0	0	65	53	-19	64	81	Repeat ⓘ	
1713 / rev	CACGCCATTACACTCCAGCC TGG ⚠ Inefficient Enzymes: <i>LpnPI, BseDI, BstNI, StyD4I</i>	0	0	52	27	-15	63	87	Repeat ⓘ	
1715 / fw	GAGCTTGCCTTGTGCCCC AGG Enzymes: <i>LpnPI, BseDI, BstNI, StyD4I, MwoI</i>	0	0	40	32	-20	64	74	Repeat ⓘ	
1719 / fw	TTCGCTCTTGTGCCCCAGGC TGG Enzymes: <i>BpmI, BpmI, BseDI, BstNI, StyD4I</i>	0	0	32	64	-83	75	76	Repeat ⓘ	
1729 / fw	TTGCCAGGCTGGAGTGAA TGG Enzymes: <i>Eco24I, Bsp1286I</i>	0	0	54	63	-32	78	85	Repeat ⓘ	
1739 / fw	TGGAGTGTAAATGGCGTGATT TGG Enzymes: <i>Eco24I, Bsp1286I</i>	0	0	33	50	-107	70	80	Repeat ⓘ	
1740 / fw	GGAGTGTAATGGCGTGATT TGG ⚠ Inefficient Enzymes: <i>Eco24I, Bsp1286I</i>	0	0	46	43	-61	69	81	Repeat ⓘ	
1747 / rev	AACCCACGAGTCAGAGTTG CGG Enzymes: <i>AsuHPI</i>	0	0	51	67	16	68	70	Repeat ⓘ	

1753 / rev	CGCTTGAACCCACGAGTCAG AGG Enzymes: <i>PpsI, HinfI, Hpy188I</i>	0	0	62	49	25	71	79	Repeat 🌟	
1764 / fw	TCACCGCAACCTCTGACTCG TGG Enzymes: <i>HinfI</i>	0	0	52	25	43	79	75	Repeat 🌟	
1765 / fw	CACCGCAACCTCTGACTCGT GGG Enzymes: <i>HinfI, AgeI</i>	0	0	53	37	-35	81	85	Repeat 🌟	
1781 / rev	AGCTACTCGGGAGCTGAGGC AGG Enzymes: <i>BstDEI</i> Cloning / PCR primers	0	3	39	31	-6	67	64	105 - 542 - 1703 - 2966 - 3352 105 - 155 - 58 - 24 - 130 8668 off-targets	More than 1000 off-targets, showing only top 30 🌟 0:intergenic:CLSTN1-CTNNBIP1/RP11-84A14.5 0:intergenic:Y_RNA-TARDBP 0:intergenic:PAQR7/RP1-125I3.2-PAQR7 show all...
1785 / rev	TCCCAGCTACTCGGGAGCTG AGG Enzymes: <i>AluBI, BstDEI</i>	0	0	58	43	78	57	74	Repeat 🌟	
1793 / rev	GCGTGTAATCCCAGCTACTC GGG Enzymes: <i>AluBI, BmeT110I, Hpy188III</i>	0	0	47	54	-3	73	74	Repeat 🌟	
1794 / rev	TGCGTGTAATCCCAGCTACT CGG Enzymes: <i>AluBI, BmeT110I, Hpy188III</i>	0	0	48	36	-31	73	78	Repeat 🌟	
1803 / fw	TGCCCTAGCTCCCGAGTAGC TGG Enzymes: <i>AluBI</i> Cloning / PCR primers	0	5	28	20	-110	62	73	110 - 554 - 1677 - 2968 - 3079 110 - 85 - 77 - 68 - 138 8388 off-targets	More than 1000 off-targets, showing only top 30 🌟 0:intergenic:Y_RNA-TARDBP 0:intergenic:PAQR7/RP1-125I3.2-PAQR7 0:intergenic:RN7SL131P-THRAP3 show all...
1804 / fw	GCCTCAGCTCCCGAGTAGCT GGG Enzymes: <i>AluBI</i> Cloning / PCR primers	0	2	46	42	-3	62	82	113 - 553 - 1871 - 3356 - 4200 113 - 112 - 79 - 116 - 664 10093 off-targets	More than 1000 off-targets, showing only top 30 🌟 0:intergenic:CLSTN1-CTNNBIP1/RP11-84A14.5 0:intergenic:Y_RNA-TARDBP 0:intergenic:PAQR7/RP1-125I3.2-PAQR7 show all...
1821 / rev	AAAAAAATGAGCCAGGCATGG TGG Enzymes: <i>NlaIII, HpyCH4V, SmiMI</i>	0	0	68	39	66	62	86	Repeat 🌟	
1824 / rev	ACAAAAAAATGAGCCAGGC A TGG Enzymes: <i>NlaIII, BstNI, StyD4I, SmiMI</i>	0	0	61	29	-2	76	91	Repeat 🌟	
1829 / rev	AAAATACAAAAAAATGAGCC AGG ⚠ Inefficient Enzymes: <i>LpnPI, NlaIII, BstNI, StyD4I</i>	0	0	56	19	-44	73	81	Repeat 🌟	
1831 / fw	CACGCATGCACCACCATGCC TGG ⚠ Inefficient Enzymes: <i>LpnPI, NlaIII, BstNI, StyD4I, SmiMI</i>	0	0	50	25	-45	74	86	Repeat 🌟	
1863 / fw	TTGTATTTTAGTAGAACG AGG ⚠ Not with U6/U3	0	0	64	34	-136	78	90	Repeat 🌟	
1871 / rev	CAAGACCAGCCTGACCAATA CGG Enzymes: <i>TspGW1</i>	0	0	50	62	-34	69	81	Repeat 🌟	
1877 / fw	GAAACGAGGTTCTCCGTAT TGG A.....	0	0	51	58	-71	65	80	Repeat 🌟	
1882 / fw	GAGGTTCTCCGTATTGGTCAGGC TGG A.....	0	0	49	53	12	55	65	Repeat 🌟	
1886 / fw	TTTCTCCGTATTGGTCAGGC TGG A.....	0	0	46	21	-59	50	71	Repeat 🌟	
1898 / rev	CGGGCGGATGACCTGAGGTC GGG AT... Enzymes: <i>Bse21I, Hpy188III, Eam1105I, BsiI</i>	0	0	50	93	35	79	74	Repeat 🌟	
1899 / rev	GCGGGCGGATGACCTGAGGT CGG AT... Enzymes: <i>Bse21I, Hpy188III, BstDEI, Eam1105I, BsiI</i>	0	0	56	65	7	75	74	Repeat 🌟	
1903 / rev	CGAGGCAGGGCGGATGACCTG AGG AT... Enzymes: <i>Bse21I, LpnPI, BstDEI, Eam1105I, BsiI</i>	0	0	61	72	91	59	76	Repeat 🌟	
1907 / fw	GGTCTTGAACCTCCGACCTC AGG Enzymes: <i>Bse21I, MnlI, BstDEI, BspCNI, Eam1105I, BsiI</i>	0	0	47	40	-15	60	80	Repeat 🌟	
1914 / rev	CTTAGGGAGGCCGAGGCCGG CGG AT... Enzymes: <i>EciI, BstC8I, BtsCI</i>	0	0	51	99	24	67	61	Repeat 🌟	
1917 / rev	GCACCTAGGGAGGCCGAGGC GGG A T.. Enzymes: <i>NmeAIII, EciI, BstC8I, BseDI</i>	0	0	47	52	-13	67	76	Repeat 🌟	
1918 / rev	AGCACTTAGGGAGGCCGAGG CGG AT.. Enzymes: <i>NmeAIII, EciI, BstC8I, BseDI</i>	0	0	54	70	31	67	63	Repeat 🌟	
1921 / rev	CACAGCACTTAGGGAGGCCG AGG T.. Enzymes: <i>BshFI, NmeAIII, BstC8I, BseDI</i>	0	0	50	51	-46	60	63	Repeat 🌟	
1924 / fw	CTCAGGTACATCCGCCGCC CGG T...TA... ⚠ Inefficient Enzymes: <i>BshFI, SsiI, MnlI, BstC8I, BseDI, Faul</i>	0	0	50	56	-94	60	79	Repeat 🌟	
1927 / rev	TGTAATCACAGCACTTAGGG AGG Enzymes: <i>BshFI, NmeAIII, BstDEI</i>	0	0	71	34	36	67	82	Repeat 🌟	
1930 / rev	GCCTGTAATCACAGCACTTA GGG ⚠ Inefficient Enzymes: <i>BshFI, BstDEI</i>	0	0	39	39	-82	71	78	Repeat 🌟	
1931 / rev	CGCCTGTAATCACAGCACTT AGG ⚠ Inefficient Enzymes: <i>BstDEI</i>	0	0	58	25	-67	73	86	Repeat 🌟	
1949 / fw	TCCCTAAGTCTGTGATTAC AGG	0	0	33	45	-103	70	71	Repeat 🌟	

	⚠ Inefficient								
1980 / rev	CATTTTATCATTTAAATA AGGT.G.....	0	0	25	24	-202	65	89	Repeat ⚡

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