

# Supporting Information

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**Table S1. Recognition helices for ZFN10, ZFN11, ZFN-H2a, and ZFN-H2b**

Target (5' → 3')	Recognition helix I	Recognition helix II	Recognition helix III	
ZFN10	ATGGATGCA	QSGDLRR (1)	TSGNLVR (1)	RRDELNV (2)
ZFN11	TTGTGGGAA	QSSNLQK (3)	RSDHLTT (4)	RSDSLTK (5)
ZFN-H2a	GTTGGTGCT	QSSDLTR (6)	TSGHLVR (1)	TSGSLVR (1)
ZFN-H2b	GCTGCTGTC	DRSALAR (6)	QSSDLTR (6)	QSSDLTR (6)

References are in parentheses.

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3. Kim YG, Shi Y, Berg JM, Chandrasegaran S (1997) Site-specific cleavage of DNA-RNA hybrids by zinc finger/FokI cleavage domain fusions. *Gene* 203:43–49.
4. Segal DJ, Dreier B, Beerli RR, Barbas CF, III (1999) Toward controlling gene expression at will: selection and design of zinc finger domains recognizing each of the 5'-GNN-3' DNA target sequences. *Proc Natl Acad Sci USA* 96:2758–2763.
5. Mani M, Kandavelou K, Dy FJ, Durai S, Chandrasegaran S (2005) Design, engineering, and characterization of zinc finger nucleases. *Biochem Biophys Res Commun* 335:447–457.
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**Table S2. Primers used for the assembly of ZFN10, ZFN11, ZFN-H2a, and ZFN-H2b**

Name	Use	Sequence (5'→3'')
BBO1	Backbone primer 1	GAAAAAACCTACAAGTGTCCCTGAAT <u>TG</u> GGAAAGT <u>C</u> TTTTCT
BBO2	Backbone primer 2	<u>C</u> AGCGAACACACAGGTGAGAAGCCATATAATGCCAGAA <u>TG</u> GGTAAATCATT <u>CAG</u>
BBO3	Backbone primer 3	<u>CA</u> ACGGACCACAf <u>CC</u> GGGGAGAAGCCATTAAATGCCCT <u>GAG</u> T <u>GC</u> GGGAAGAGTTTT
ZFP10-SDO1	Helix primer I in ZFP10	<u>AC</u> CTGTGTGTT <u>CG</u> CTGGTGAC <u>GC</u> CAA <u>AT</u> CCAGACT <u>GAG</u> AAAAGACT <u>CC</u> CAC
ZFP10-SDO2	Helix primer II in ZFP10	<u>CC</u> CGGTGTGGGT <u>CC</u> TTGGTGAC <u>GA</u> ACCA <u>AT</u> TC <u>CA</u> AG <u>T</u> GAAT <u>G</u> ATT <u>AC</u> CA
ZFP10-SDO3	Helix primer III in ZFP10	TCCAGTAT <u>GAG</u> TAC <u>GT</u> TGAT <u>GA</u> ACATT <u>CA</u> ATT <u>CAT</u> CAC <u>GA</u> CG <u>TG</u> AAA <u>ACT</u> CT <u>CC</u> CG <u>CAC</u>
ZFP11-SDO1	Helix primer I in ZFP11	<u>AC</u> CTGTGTGTT <u>CG</u> CTGGTG <u>CT</u> CTGA <u>AGG</u> TT <u>G</u> TA <u>AG</u> ACT <u>GAG</u> AAA <u>AG</u> ACT <u>CC</u> CAC
ZFP11-SDO2	Helix primer II in ZFP11	<u>CC</u> CGGTGTGGGT <u>CC</u> TTGGTG <u>AG</u> TA <u>AG</u> AT <u>G</u> AT <u>CG</u> GA <u>AC</u> G <u>ACT</u> GA <u>AT</u> G <u>AT</u> TT <u>AC</u> CA
ZFP11-SDO3	Helix primer III in ZFP11	TCCAGTAT <u>GAG</u> TAC <u>GT</u> TGAT <u>GA</u> CG <u>TG</u> TT <u>AG</u> T <u>GA</u> AT <u>CG</u> GA <u>AC</u> GT <u>G</u> AAA <u>ACT</u> CT <u>CC</u> CG <u>CAC</u>
ZFN-H2a-SDO1	Helix primer I in ZFN-H2a	<u>AC</u> CTGTGTGTT <u>CG</u> CTGGTGAC <u>GA</u> G <u>AT</u> C <u>AG</u> A <u>AG</u> ACT <u>GAG</u> AAA <u>AG</u> ACT <u>CC</u> CAC
ZFN-H2a-SDO2	Helix primer II in ZFN-H2a	<u>CC</u> CGGTGTGGGT <u>CC</u> TTGGTGAC <u>GA</u> AC <u>AA</u> <u>AG</u> AT <u>G</u> T <u>CC</u> <u>CA</u> <u>AG</u> <u>T</u> GA <u>AT</u> G <u>AT</u> TT <u>AC</u> CA
ZFN-H2a-SDO3	Helix primer III in ZFN-H2a	TCCAGTAT <u>GAG</u> TAC <u>GT</u> TGAT <u>GA</u> AC <u>AA</u> <u>AG</u> AT <u>CC</u> <u>CA</u> <u>AG</u> <u>T</u> G <u>AT</u> AAA <u>ACT</u> CT <u>CC</u> CG <u>CAC</u>
ZFN-H2b-SDO1	Helix primer I in ZFN-H2b	<u>AC</u> CTGTGTGTT <u>CG</u> CTGGTGAC <u>GA</u> G <u>AG</u> C <u>AG</u> A <u>AC</u> G <u>AT</u> C <u>AG</u> AAA <u>AG</u> ACT <u>CC</u> CAC
ZFN-H2b-SDO2	Helix primer II in ZFN-H2b	<u>CC</u> CGGTGTGGGT <u>CC</u> TTGGTG <u>AC</u> G <u>AG</u> T <u>AG</u> AT <u>C</u> AG <u>AA</u> <u>AG</u> ACT <u>G</u> ACT <u>GA</u> AT <u>G</u> AT <u>TT</u> <u>AC</u> CA
ZFN-H2b-SDO3	Helix primer III in ZFN-H2b	TCCAGTAT <u>GAG</u> TAC <u>GT</u> TGAT <u>GA</u> CG <u>AG</u> GA <u>TA</u> <u>AG</u> AT <u>C</u> AG <u>AA</u> <u>AG</u> ACT <u>G</u> AT <u>G</u> AAA <u>ACT</u> CT <u>CC</u> CG <u>CAC</u>

Underlined letters indicate complementary regions between BBO and the corresponding SDO primers.

**Table S3. Primers used for the construction of pSAT10, pSAT11, pSAT12.1, and pRCS11**

Name	Used in assembly of	Sequence (5' → 3')
SAT10-F	pSAT10	ATAAGAAT <u>GCGGCCGCTGC</u> ATCCATGTAAGTATGGATGCAGTAATCATGGTCATAGCTTTCC
SAT10-R-V2	pSAT10	GACGCACC <u>GGTTGC</u> ATCCATA <u>CTTACATGGATGC</u> AGGCACTGGCCGTCGTTTACAACG
SAT11-F	pSAT11	ATAAGAAT <u>GCGGCCGCTTCCC</u> CACAAGTAAGTTGTGGGAAGTAAGTATGGATGCAGTAATCATGGTCATAGCTTTCC
SAT11-R	pSAT11	GACGCACC <u>GGTTCCC</u> CACAAC <u>CTTACATGGATGC</u> AGGCACTGGCCGTCGTTTACAACG
SAT12-F	pSAT12.1	ATAAGAAT <u>GCGGCCGCG</u> <u>AGC</u> ACCAACGTAAGTGTGGTGT <u>GT</u> TAAGTATGGATGCAGTAATCATGGTCATAGCTTTCC
SAT12-R	pSAT12.1	GACGCACC <u>GGTAGC</u> ACCAAC <u>ACTTACGTTGGTGT</u> GGCACTGGCCGTCGTTTACAACG
RCS11-UP-1	pRCS11	TCCCCCGGG <u>TTCCC</u> CACAA <u>ACTTAC</u> TTGTGGGAAGCACCAAC <u>ACTTACGTTGGTGT</u> CTCCGGGGGA
RCS11-DW-1	pRCS11	TCCCCCGGG <u>AGC</u> ACCAACGTAAGTGTGGTGT <u>CTTCCC</u> CACAAGTAAGTTGTGGGAACCCGGGGGA
RCS11-UP-2	pRCS11	GGGGTAC <u>CTGCATCC</u> ACTTACATGGATGCAGGTACCCC
RCS11-DW-2	pRCS11	GGGGTAC <u>CTGCATCC</u> ACTTACATGGATGCAGGTACCCC

Underlined letters indicate ZFN target sites.