

Supplemental Table S1: gRNA sequences used to generate CRISPR/Cas9 deletion clones.

	5'	3'
EHF intron 6 gRNAs	GTCAATAGTCCTTCTTAAGAT	GTTTAGGTCGTGGAATCAGAG
11.2521 gRNAs	GTTTCCATGCCTCTTACCAT	GTAAGGATATGCTGGTAGGA
11.2516 gRNAs	GAGTGTTTCTGATGATCAGTG	GACAGAGCTGGCATAGTAAAT

Supplemental Table S2: PCR primers used for validation of CRISPR/Cas9 homozygous deletion clones.

	Forward	Reverse
EHF intron 6 PCR (external)	AGCTGGGCCATCCTCTTTTC	TTTTTGGTGTGGCACTTGGC
EHF intron 6 PCR (internal/external)	CTCCATCCTGCCATGACGTT	TTTTTGGTGTGGCACTTGGC
11.2521 PCR (external)	GCGCATGTGTTCAAAGTGCT	TGGGTAGGGAAGTGGGTAGG
11.2521 PCR (internal/external)	GCGCATGTGTTCAAAGTGCT	TTACCCAACCCACAGGAGA
11.2516 PCR (external)	GTACAGGGGCCACACATAGC	GCAGGGTGCTGCTTACAGA
11.2516 PCR (internal/external)	GAGGTGGTTGCTCCAACGTA	GCAGGGTGCTGCTTACAGA

Supplemental Table S3: Primers used for RT-qPCR.

	Forward	Reverse
Beta-2 -Microglobulin ( $\beta$ 2M)	ACTGAATTCACCCCACTGA	CCTCCATGATGCTGCTTACA
ELF5	TGCTTGAAAACAAGTGGCATC	AGGGCTTCCGATTTAACCACC
EHF	GCAGCATGAGTTTGCAGGAG	GTGTGTGGACTGGAAACAGGT
APIP	GGCCACACTTCTTTCCAG	GCATGAGCCATTCTATCTTTGAGG

Supplemental Table S4: Primers used for ChIP-qPCR.

	Forward	Reverse
11p13 Negative Control	TCCTTCCAGGTTTTGGCTCC	GCCCCAGATCAGGAGAGAGA
CFTR +48.9	GGCATCAGCCAGTCAAGGTT	AGCAGAGGGCAAAGTGGTACTT
ELF5 Intron 4	CCCCATGACACTAGCAGTCC	TACAGTCTGGGTTCACTGC
ELF5 Intron 3	ACTCGCTCCCTTTTCCCTAA	AAGTCCTTTCCATCGTGTG
ELF5 Intron 2	CTGAATGTCTAAGACTTGGTTGGA	TTAAAGAATGAGGTTAACAGAAGTGA
ELF5 Promoter/Intron 1	AGAGGGCAAATGGGTTTCTT	CACCCCTCGATACAGAGAA
11.2512	GCTTCTATTCATTCACCCAACAC	GTAGTAGCCCTGCCACCAGA
HB11.1485	GATTTTCCGAAGCTGTGGAGG	CCACCATACGCAATCACAGG
11.2516	AATCTTCTCCTGCCCACT	TCCGGTAGGGGTAATGACA
EHF Intron 6	CCCGTAAAGAAATGGCTCAC	AGGCCAAGGTCCTATCCAGT
APIP +84 kb	TCATGAGAAGCCACATGGAG	GACATTTCTGGTGCCTTGGT
APIP Intron 2	CTGTCATGCAAAGAATCAGGTTT	TAAGAACTGTCCAGCAGAGGTC

ELF5 ChIP Peak 1	CACAGAAACCCACACACTG	TAGTTTGGGGCATTTCAGG
ELF5 ChIP Peak 2	CCCAGCAGTCTTTTCTCTGC	CCTGCGTTTTTCAGTTTGGAT
ELF5 ChIP Peak 3	AAGCAGGGGAAGTGAATCT	CTTCCAGGCTTAGGGAGGAC
ELF5 ChIP Peak 4	CTGAAATAATGGCCCTGCAT	TGTAGGTTGCAGGGTGAGGT
ELF5 ChIP Peak 5	GGTGCCATCTCTGAAAGC	ACGTGTCTCAGGTCAAACC

Supplemental Table S5: Primers used for 4C library generation. Red indicates P5 sequence; blue indicates P7 sequence.

	Reading Primer	Non-Reading Primer
ELF5 Promoter	AATGATACGGCGACCACCGAACACTCTTT CCCTACACGACGCTCTTCCGATCTGCCTC CTTTCAAGCTTTAAATTC	CAAGCAGAAGACGGCAT ACGA AATCCTCTCACGAA CTGCC
HB11.1485	AATGATACGGCGACCACCGAACACTCTTT CCCTACACGACGCTCTTCCGATCTCTTGG GGAGTAGCAAAAGAT	CAAGCAGAAGACGGCAT ACGATCCAAACCTCTATT TCCTCA
11.2516	AATGATACGGCGACCACCGAACACTCTTT CCCTACACGACGCTCTTCCGATCTCTCCC CAAATTAGCACCATG	CAAGCAGAAGACGGCAT ACGAAGGCAGCCTTCTT GCTTTCT
EHF Promoter	AATGATACGGCGACCACCGAACACTCTTT CCCTACACGACGCTCTTCCGATCTTTAGT CCACCCTGCTTTGG	CAAGCAGAAGACGGCAT ACGATTAGGGCTCAGAG TACACGG

Supplemental Table S6: sgRNAs used for VPR-mediated activation. Red indicates BbsI (Bpil) cut site.

	Forward	Reverse
ELF5 Promoter	CACCGCACAGCCCCCTTTGATGA	AAACTCATCAAAGGGGCTGTGC
EHF Promoter	CACCGTAGGGAATTCCCGTTGG	AAACCCAACCGGAATCCCTAC
11.2512	CACCGTCCTTTCTGGAGACAATAGG	AAACCCTATTGTCTCCAGAAAGGAC
11.2516	CACCGTTCAAAGACAGATGATGGGG	AAACCCCATCATCTGTCTTTGAAC
EHF Intron 6	CACCGTCTACACTAGATAAACCATG	AAACCATGTTTATCTAGTGTAGAC
11.2521	CACCGATGCGAGGTATTCTTCCCGG	AAACCCGGGAAGAATACCTCGCATC
11.2522	CACCGATGTCTCAGAGTCTCAACCA	AAACTGGTTGAGACTCTGAGACATC
11.2523	CACCGCCACCATTAGCTGTGCAGTG	AAACCACTGCACAGCTAATGGTGCC
11.2524	CACCGTCATGCATTGCTTAACAACA	AAACTGTTGTTAAGCAATGCATGAC
11.2525	CACCGCTTACCTCCACAGCACACAC	AAACGTGTGTGCTGTGGAGGTAAGC
11.2526	CACCGACTGTTTATTGCAGATAAGG	AAACCTTATCTGCAATAAACAGTC
11.2527	CACCGTCAGCCCCTGACTCCCCTG	AAACCAGTGGGAGTCAGGGGCTGAC
11.2528	CACCGAAGGTGTTTACAATCTGAG	AAACCTCAGATTGTGAAACACCTTC
11.2529	CACCGAAGATTTGGCTTGGCTTCAG	AAACCTGAAGCCAAGCCAAATCTTC
11.2530	CACCGAAAGTGAGGTCATGATTGAG	AAACCTGAATCATGACCTCACTTTC