

Supplementary Information

Supplementary Table 6. AsCas12a sgRNA Oligos

Negative 1f	AGATGGCAGCAGATTTAAGCTCCCAATAATTTCT
Negative 2f	ACTCTTGTAGATCCATGCCAACCAACTGTTGATTA
Negative 1r	GAGTAGAAATTATTGGGAGCTTAAATCTGCTGCC
Negative 2r	AATTTAATCAACAGTTGGTTGGCATGGATCTACAA
NFIA 1f	AGATCAAGGCGCTCGCCATCAGTACTTAATTTCT
NFIA 2f	ACTCTTGTAGATCCATGCCAACCAACTGTTGATTA
NFIA 1r	GAGTAGAAATTAAGTACTGATGGCGAGCGCCTTG
NFIA 2r	AATTTAATCAACAGTTGGTTGGCATGGATCTACAA
NFIX 1f	AGATGGCAGCAGATTTAAGCTCCCAATAATTTCT
NFIX 2f	ACTCTTGTAGATTGACTTCCGGGGTCTGGAATGTG
NFIX 1r	GAGTAGAAATTATTGGGAGCTTAAATCTGCTGCC
NFIX 2r	AATTCACATTCCAGACCCCGGAAGTCAATCTACAA
NFIC 1f	AGATCAGATGCAGAGCAAAGCGGCAGTAATTTCT
NFIC 2f	ACTCTTGTAGATCCATGCCAACCAACTGTTGATTA
NFIC 1r	GAGTAGAAATTACTGCCGCTTTGCTCTGCATCTG
NFIC 2r	AATTTAATCAACAGTTGGTTGGCATGGATCTACAA
NFIA&NFIX 1f	AGATCAAGGCGCTCGCCATCAGTACTTAATTTCT
NFIA&NFIX 2f	ACTCTTGTAGATTGACTTCCGGGGTCTGGAATGTG
NFIA&NFIX 1r	GAGTAGAAATTAAGTACTGATGGCGAGCGCCTTG
NFIA&NFIX 2r	AATTCACATTCCAGACCCCGGAAGTCAATCTACAA
NFIA&NFIX&NFIC 1f	AGATCAAGGCGCTCGCCATCAGTACTTAATTTCT
NFIA&NFIX&NFIC 2f	ACTCTTGTAGATCAGATGCAGAGCAAAGCGGCAGTAATTTCT
NFIA&NFIX&NFIC 3f	ACTCTTGTAGATTGACTTCCGGGGTCTGGAATGTG
NFIA&NFIX&NFIC 1r	GAGTAGAAATTAAGTACTGATGGCGAGCGCCTTG
NFIA&NFIX&NFIC 2r	GAGTAGAAATTACTGCCGCTTTGCTCTGCATCTGATCTACAA
NFIA&NFIX&NFIC 3r	AATTCACATTCCAGACCCCGGAAGTCAATCTACAA
BCL11A +58 f	AGATTCACAGGCTCCAGGAAGGGTTTG
BCL11A +58 r	AATTCAAACCCTTCCTGGAGCCTGTGA

Supplementary Table 7. SpCas9 sgRNA Oligos

Negative controlF	caccgGCACTACCAGAGCTAACTCA
NFIA #1F	caccgCACAGACTTGAGGCGCTTTG
NFIA #2F	caccgAACATCAACCAGGTGACCCT
NFIX #1F	caccgGCATGAGTCCAGGAGCAATG
NFIX #2F	caccgCAGCTACTACAACATCAACC
BCL11A +58F	caccgCTAACAGTTGCTTTTATCAC
NFI-451F	caccgGTGAAATGTGTTTTAGGCAT
NFI202F	caccgCCTGTGCCTGGCAAAGTCC
Negative controlR	aaacTGAGTTAGCTCTGGTAGTGc
NFIA #1R	aaacCAAAGCGCCTCAAGTCTGTGc
NFIA #2R	aaacAGGGTCACCTGGTTGATGTTc
NFIX #1R	aaacCATTGCTCCTGGACTCATGc
NFIX #2R	aaacGGTTGATGTTGTAGTAGCTGc
BCL11A +58R	aaacGTGATAAAAGCAACTGTTAGc
NFI-451R	aaacATGCCTAAAACACATTTACc
NFI202R	aaacGGACTTTTGCCAGGCACAGGc

Supplementary Table 8. Cas9 RNP sgRNAs

Negative control	GCACUACCAGAGCUAACUCA
NFIA	CACAGACTTGAGGCGCTTTG
NFIX	CAGCTACTACAACATCAACC
BCL11A +58	CTAACAGTTGCTTTTATCAC

Supplementary Table 9. Indel detection primers

HBGi_TIDE_F	ccctggctaaactccacccat
HBGi_TIDE_R	aggcaacagtgtgaaacatct
HBG400_TIDE_F	cgggtgcctacatacatacctg
HBG400_TIDE_R	gagatagtgtggggaaggggc
NFIA12aTIDE f	TGCGGAAAGATATCCGACCC
NFIA12aTIDE r	ACCAACGCCTCTGAAAACACT

BCL11A12aTIDE f	AGGAAGGCAGCTAGACAGGA
BCL11A12aTIDE r	GGAGGCAAGTCAGTTGGGAA
NFIX12aTIDE2f	GCTGTCCCTTGACTGAGCTT
NFIX12aTIDE2r	GAGGAACCTCCTCCCAGCTA
NFIC12aTIDE3f	TGTGTTTTGGGGCCACTGT
NFIC12aTIDE3r	CATGGGACCGTAGAACCCCTC

Supplementary Table 10. RT-qPCR primers

Gamma_globin_F	TGGCAAGAAGGTGCTGACTTC
Gamma_globin_R	GCAAAGGTGCCCTTGAGATC
Beta_globin_F	TGGGCAACCCTAAGGTGAAG
Beta_globin_R	GTGAGCCAGGCCATCACTAAA
Alpha_globin_F	AAGACCTACTTCCCGCACTTC
Alpha_globin_R	GTTGGGCATGTCGTCCAC
ALAS2_F	CAGCGCAATGTCAAGCAC
ALAS2_R	TAGATGCCATGCTTGGAGAG
BAND3_F	ACCTCTCTCACCTCACCTTCTG
BAND3_R	AACCTGTCTAGCAGTTGGTTGG
GATA1_F	CTGTCCCCAATAGTGCTTATGG
GATA1_R	GAATAGGCTGCTGAATTGAGGG
BCL11A_F	ACAAACGGAAACAATGCAATGG
BCL11A_R	TTTCATCTCGATTGGTGAAGGG
ZBTB7A_F	GCTTGGGCGCGTTGAATGTA
ZBTB7A_R	GGCTGTGAAGTTACCGTCGG

Supplementary Table 11. EMSA Oligos

emsa_59enF	CCATCGGTGGCCGTTTGCCCAGGG
emsa_59enR	CCCTGGGCAAACGGCCACCGATGG
emsa_23enF	TGAACTTGGCCGAGGGCCAGGCTT
emsa_23enR	AAGCCTGGCCCTCGGCCAAGTTCA
emsa_hbgproF	AAATCCTGGACCTATGCCTAAAAC
emsa_hbgproR	GTTTTAGGCATAGGTCCAGGATTT
emsa_hbginF	GTGCCTGGCAAAAGTCCAGGTCGC
emsa_hbginR	GCGACCTGGACTTTTGCCAGGCAC

emsa_hbgproF_m1	AAATCCTGGACCTATGATTA AAAAC
emsa_hbgproR_m1	GTTTTAATCATAGGTCCAGGATTT
emsa_hbgproF_m2	AAATCCTATACCTATGCCTAAAAC
emsa_hbgproR_m2	GTTTTAGGCATAGGTATAGGATTT
emsa_hbginF_m1	GTGCCTGGCAA AAGTATAGGTCGC
emsa_hbginR_m1	GCGACCTATACTTTTGCCAGGCAC
emsa_hbginF_m2	GTGCCTATCAA AAGTCCAGGTCGC
emsa_hbginR_m2	GCGACCTGGACTTTTGATAGGCAC
emsa_random_F	AAAAGTTCAGGGATTGTGAAATG
emsa_random_R	CATTCACAATCCCTGAACTTTT