

**Supplemental Table 1 (Related to STAR Methods).** Additional oligonucleotides used in the study.

Oligonucleotides		
Primers for B6.Cg-Gt(ROSA)26Sortm40.1(CAG-aop3/EGFP)Hze/J. Wild type Forward: AAGGGAGCTGCAGTGGAGTA. Common: CCGAAAATCTGT GGGAAGTC. Mutant Forward: ATTGCATCGCATTGTCTGAG	Millipore Sigma/The Jackson Laboratory	N/A
Primers for B6;129S6-Gt(ROSA)26Sortm9(CAG-mCherry,-CHRM4*)Dym/J. Wild type Forward: AAGGGAGCTGCAGTGGAGTA. Wild type Reverse: CAG GACAACGCCACACA. Mutant Forward: AGTAAGCTTGGGCTGCAGGT. Mutant Reverse: CATTGACAGGTGTGAAGTTGG	Millipore Sigma/The Jackson Laboratory	N/A
Primers for FVB/N-Tg(Cdx2-flpo)2Ddg/J. NSE Sequence: TAGCCAGACTCCTGCCTGAT. FlpO sequence: GTTCACGATGTCGAAGCTCA	The Jackson Laboratory/David Ginty	N/A
Primers for Chx10-CRE. Forward Primer: GCATTAGACACCGGAGGG. creOutgen: CATCGACCGGTAATGCAGGC	Thomas Jessell Lab (Crone et al., 2008)	N/A