Supplementary Table 1 – Average and variance for luciferase experiments that were tested for statistical significance

Supplementary Fig.	Condition	Average Relative Luciferase Activity	Standard Deviation	n
4a	CRE-DOG^{OG}, +GFP	997.0	112.5	18
	CRE-DOG^{OG}, –GFP	51.3	12.8	14
	121trc + C-CreintG, +GFP	1496.3	138.6	18
	121trc + C-CreintG, –GFP	32.1	10.9	15
4b	121trc + C-CreintG, +GFP	1018.7	138.9	21
	121trc + C-CreintG, –GFP	34.0	5.7	19
	CRE-DOG^{OPT}, +GFP	1111.0	148.8	21
	CRE-DOG^{OPT}, –GFP	21.9	5.0	21
5	CRE-DOG^{OG}, +GFP	1624.9	91.6	12
	CRE-DOG^{OG}, –GFP	107.4	30.8	12
	CRE-DOG^{OPT}, +GFP	1714.1	107.7	12
	CRE-DOG^{OPT}, –GFP	34.6	3.8	12

Supplementary Table 2 – Summary of Cerebellar and Cortical rAAV FLEX-tdT quantifications (mean +/- s.d.)

CEREBELLUM	
Specificity	
% tdT+ cells that are GFP+	96 ± 2%
Efficiency	
% tdT+ cells given GFP+	42 ± 10%
% PCs that are tdT+	80 ± 11%
% MLIs that are tdT+	35 ± 12%
% GLIs that are tdT+	51 ± 17%
% tdT cells given GFP+, Cre+:	
Total	55 ± 26%
PCs	67 ± 22%
GLIs	44 ± 27%
Induction	
% tdT cells given Cre+:	
GFP negative brains	1 ± 1%
PCs (GFP+ brains)	67 ± 22%
GLIs (GFP+ brains)	51 ± 21%
% Native GFP given Anti-GFP+	
PCs	100%
MLIs	55 ± 17%
GLIs	79 ± 13%
Identity of leak cells (tdT+)	
PCs	27%
MLIs	32%
GLIs	10%
GCs	15%
Astro/BG	13%
Other	2%
CORTEX	
Specificity	
% tdT+ cells given GFP+	98 ± 2%
Efficiency	
% tdT+ cells given GFP+	68 ± 17%
% tdT+ cells given GFP+, Cre+	78 ± 10%
Induction	
% tdT cells given Cre+:	
GFP negative brains	0.3 ± 0.3 %
GFP+ brains	17 ± 6 %

PCs, Purkinje cells. MLI, molecular layer interneuron. BG, Bergmann glia. Astro, astrocyte. GC, granule cell, GLI, granular layer interneurons. Other, identities include oligodendrocyte, unipolar brush cell, NG2 cell