



SUPPLEMENTARY FIG. S4. Evaluation of transgene expression in the nose after initial fetal and neonatal vector delivery and subsequent readministration in adult life. Shown is β -Gal expression in the upper airways (nose) as detected by X-Gal staining after fetal and neonatal rAAV2/5 administration (1.0×10^{10} GC/animal) and readministration at 3 months. (A–D) Representative images depict the proximal nose region (original magnification, $\times 63$) for each time point. β -Gal expression was visualized at 1 month (A) and 4 months (B) for animals receiving a single dose as fetus or neonate and at 4 months (or 1 month after readministration) for animals that received a second vector dose at 3 months (C). (D) β -Gal expression in nasal epithelium is demonstrated 1 month after intratracheal instillation of a single vector dose to adult control mice. (E) High-magnification images (original magnification, $\times 400$) 1 month after fetal and neonatal gene transfer demonstrate β -Gal-positive cells situated mainly in the respiratory epithelium. Diffuse background staining is present in the olfactory epithelium (arrow). (F) Absence of X-Gal staining in negative control nose. Scale bars: (A–D) $200 \mu\text{m}$; (E and F) $50 \mu\text{m}$. *Abbreviations:* 1 and 4 m, 1 and 4 months after perinatal gene transfer; 4 m-R, 1 month after readministration/4 months after initial perinatal gene transfer.