



**Supplementary Figure S1.** Detailed analysis of vector titer and NGS data. Individual data points from Figures 1C, 2C, D, 4C, D and 5C, D are shown. The medians and the interquartile ranges are shown. **(A)** *Left-Y-axis:* Pre- and postdilution titers of the individual AAV vector preparations (from Figure 1C, upper panel). *Right-Y-axis:* Distribution of AAV variants within the mixed AAV Testing Kit based on NGS results (from Fig. 1C, lower panel). **(B)** DNA and RNA NGS data from *in vitro* experiments (from Fig. 2C, D). **(C)** DNA and RNA data from naïve FRG mouse (from Fig. 4C, D). **(D)** DNA and RNA from humanized FRG mouse (from Fig. 5C, D). AAV, adeno-associated virus; NGS, next-generation sequencing.