

Supplementary Table 1 Expected molecular weight of potential genomes

Name	Nucleotide length (bases)	Expected genome size of unit-length genomes (bases)	Expected AAV vector mass of unit-length genomes (MDa)	Measured molecular weight (MDa)
AAV8-Empty	0	0	~3.718	3.80
AAV8-TTR-coFVIII-848	848	848, 1566, 2284, 3002, 3720, 4438, 5156	3.98, 4.20, 4.42, 4.64, 4.87, 5.08, 5.30	4.02, 4.25, 4.51, 4.75
AAV8-TTR-coFVIII-1320	1320	1320, 2510, 3700, 4890, ~5200	4.13, 4.49, 4.86, 5.23, 5.30	4.20, 4.61, 5.04
AAV8-TTR-coFVIII-2981	2981	2981, ~5200	4.63, 5.30	4.79
AAV8-TTR-coFVIII-4707	4707	4707, ~5200	5.15, 5.30	5.31

Based on AAV packaging capacity of around 5.2kb, expected genomes include multimers of the nucleotide length, even number unit genomes, odd number unit genomes, and unit genome plus incomplete genome.

M.W. of ssDNA = Calculated using exact sequence with OligoCalc

TAAV8 Capsid M.W.=~3.718 MDa.²⁸

Based on the following M_w : VP1 81 kDa; VP2 65 kDa; VP3 60 kDa. VP1:VP2:VP3=1:1:10