

WHAT IS CLAIMED IS:

1. An AAV peptide comprising a sequence of 11 contiguous amino acids $X_1X_2X_3X_4X_5X_6X_7X_8X_9X_{10}X_{11}$, wherein

X_1 is D, A, E, Q, N, G, or S;

X_2 is G, N, S, T, Q, R, or V;

X_3 is T, S or N;

X_4 is L or V;

X_5 is A, S, Q, P, or T;

X_6 is V, T, Q, N, L, or M;

X_7 is P;

X_8 is F, Y, V, L, C, or S;

X_9 is K, R or S;

X_{10} is A or N; and

X_{11} is Q or P,

wherein the AAV peptide does not comprise amino acid sequence AQTLAVPFKAQ (SEQ ID NO: 1).

2. The AAV peptide of claim 1, wherein amino acids $X_7X_8X_9X_{10}X_{11}$ are PFKAQ or PFSNP.

3. The AAV peptide of claim 1 or claim 2, wherein amino acids $X_4X_5X_6$ are LAV, LAT, LAQ, LQQ or LSN.

4. The AAV peptide of any one of claims 1-3, wherein amino acids $X_1X_2X_3$ are DGT, GGT, EGT, EGS, DST, EST, QGT, NQT, SGS, SGN, ATT, AVT, AQT, or ART.

5. The AAV peptide of claim 1, wherein the 11 contiguous amino acids are AQTLAVPFSNP (SEQ ID NO: 15).

6. The AAV peptide of claim 1, wherein amino acids $X_7X_8X_9X_{10}X_{11}$ are PFKAQ, amino acids $X_4X_5X_6$ are LAV, and amino acids $X_1X_2X_3$ are DGT, DST, EGT, EST, EGS, GGT, SGS, QGT, NQT, SGN or AVT.

7. The AAV peptide of claim 1, wherein amino acids $X_7X_8X_9X_{10}X_{11}$ are PFKAQ, amino acids $X_4X_5X_6$ are LAT, and amino acids $X_1X_2X_3$ are AQT, ATT, DGT, or GGT.

8. The AAV peptide of claim 1, wherein amino acids $X_7X_8X_9X_{10}X_{11}$ are PFKAQ, amino acids $X_1X_2X_3$ are AQT, and amino acids $X_4X_5X_6$ are LAQ, LQQ, LSN, LST, LPQ, LSQ or LQL.
9. The AAV peptide of claim 8, wherein amino acids $X_4X_5X_6$ are LAQ, LQQ or LSN.
10. The AAV peptide of claim 1, wherein the sequence of 11 contiguous amino acids is one of SEQ ID NOs: 4-26.
11. The AAV peptide of claim 1, wherein the sequence of 11 contiguous amino acids is one of SEQ ID NOs: 4-15.
12. The AAV peptide of claim 1, wherein the sequence of 11 contiguous amino acids is SEQ ID NO: 4.
13. The AAV peptide of claim 1, wherein the sequence of 11 contiguous amino acids is SEQ ID NO: 5.
14. The AAV peptide of claim 1, wherein the sequence of 11 contiguous amino acids is SEQ ID NO: 6.
15. The AAV peptide of claim 1, wherein the sequence of 11 contiguous amino acids is SEQ ID NO: 9.
16. An AAV capsid protein comprising the AAV peptide of any one of claims 1-15.