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(54) Title: METHODS AND COMPOSITIONS FOR ANTIBODY-EVADING VIRUS VECTORS

(57) Abstract: The present disclosure provides AAV capsid proteins comprising a modification in the amino acid sequence and virus vectors comprising the modified AAV capsid protein. The disclosure also provides methods of administering the virus vectors and virus capsids of the disclosure to a cell or to a subject *in vivo*. This disclosure also relates to recombinant adeno associated virus (rAAV) capsid proteins comprising one or more amino acid substitutions in the 5-fold region of the rAAV capsid that result in decreased reactivity to neutralizing antibodies, and their use as gene delivery vehicles.

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WT      ADPPTTFNQSKLNSFIT
h1      ADPVGTFNEAKLHSFIT
h9      ADPVSTFNPAKLMSFIT
d5      ADPPLTFNCCKLNSFIT
d4      ADPPVTFNQDKLWSFIT
h6      ADPPVTFNSGKLCSFIT
h4      ADPIGTFNGQKLCSFIT
h5      ADPQVTFNGGKLFSFIT
h3      ADPPGTFNGGKLWSFIT
h8      ADPPGTFNGGKLASFIT
h7      ADPPGTFNRGKLQSFIT
d6      ADPPGTFNDGKLGSFIT
h2      ADPPSTFNCMKLPSFIT
h11     ADPPSTFNCPKLQSFIT
d1      ADPPSTFNLGKLSSFIT
d7      ADPPSTFNGGKLPSFIT
h12     ADPSGTFNLHKLCSFIT
h10     ADPQDTFNRTKLCSFIT
d3      ADPPITFNRTKLMSFIT
xx4     ADPFVTFNGDKLMSFIT
xx2     ADPRRTFNSRKLKSFIT
e2      ADPSVTFNSAKLQSFIT
e1      ADPVLTFNGSKLASFIT
xx3     ADPPTTFNPSKLWSFIT
e3      ADPPVTFNEGKLFSFIT
e5      ADPPTTFNQGKLQSFIT
xx1     ADPPGTFNGGKLGSFIT
xx5     ADPPLTFNNGKLSSFIT
hi-C    ADPRSTFNGDKLNSFIT
hi-A    ADPPITFNVDKLGSFIT
hi-B    ADPPITFNEPKLASFIT
hi-e    ADPWPTFNAGKLRSFIT
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FIG. 1

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