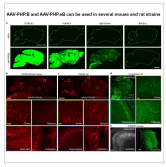

Version 2

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Systemic AAV vectors for widespread and targeted gene delivery in rodents V.2

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1 Works for me dx.doi.org/10.17504/protocols.io.bujmnuk6

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ABSTRACT

We recently developed adeno-associated virus (AAV) capsids to facilitate efficient and noninvasive gene transfer to the central and peripheral nervous systems. However, a detailed protocol for generating and systemically delivering novel AAV variants was not previously available. In this protocol, we describe how to produce and intravenously administer AAVs to adult mice to specifically label and/or genetically manipulate cells in the nervous system and organs, including the heart. The procedure comprises three separate stages: AAV production, intravenous delivery, and evaluation of transgene expression. The protocol spans 8 d, excluding the time required to assess gene expression, and can be readily adopted by researchers with basic molecular biology, cell culture, and animal work experience. We provide guidelines for experimental design and choice of the capsid, cargo, and viral dose appropriate for the experimental aims. The procedures outlined here are adaptable to diverse biomedical applications, from anatomical and functional mapping to gene expression, silencing, and editing.

EXTERNAL LINK

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ATTACHMENTS

s41596-018-0097-3.pdf

Challis_Kumar_etal_NP_update_dec2020.pdf

Sup.Table4_v2_NP_Titration calculator_ssAAV_dec2020.xlsx

Titration calculator_ssAAV_scAAV_dec2020.xlsx

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