Intravagal AAV injection in mice

Ayse Ulusoy1, Michael Helwig1, Angela Rollar1, Michael Klinkenberg1, Sinead O'Sullivan1, Shirley Lee1, Donato Di Monte1

1DZNE, DI Monte Group

ABSTRACT

The protocol details AAV vector injections into the mouse vagus nerve and describes pre and post-operative mouse handling.

DOI: dx.doi.org/10.17504/protocols.io.3byl4je2olo5/v1

Protocol Citation: Ayse Ulusoy, Michael Helwig, Angela Rollar, Michael Klinkenberg, Sinead O'Sullivan, Shirley Lee, Rita Pinto-Costa, Donato Di Monte 2023. Intravagal AAV injection in mice. protocols.io https://dx.doi.org/10.17504/protocols.io.3byl4je2olo5/v1

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Protocol status: Working
We use this protocol and it's working
Anesthetize the mouse with isoflurane and use pain killers (e.g. Temgesic) following the ethical committee procedures.

Clean the surgery area with skin disinfectant, make a small incision at the midline of the neck, and isolate the left vagus nerve. Place a holder underneath to keep it isolated and to form a base to insert the needle.

Using a micropump and a 35-gauge blunt steel needle fitted to a 10-ul NanoFil syringe, inject 800 nl AAV-containing solution. Keep the needle in place for another minute to avoid backflow.

Suture and clean the wound and return the mouse to a clean cage. Follow the ethical committee's recommendations for post-operative care.

Post-operative drug treatments:

To stimulate DREADDs, inject 1 mg/kg CNO (Tocris) dissolved in 0.9% saline intraperitoneally.

For in situ oxidative stress assessments dissolve DHE (Dihydroethidium) in saline/dimethyl...
sulfoxide (DMSO) (1:1 ratio) and inject intraperitoneally at a dose of 15 mg/kg.