Gene silencing ameliorates disease manifestations in a mouse model of Huntington's disease

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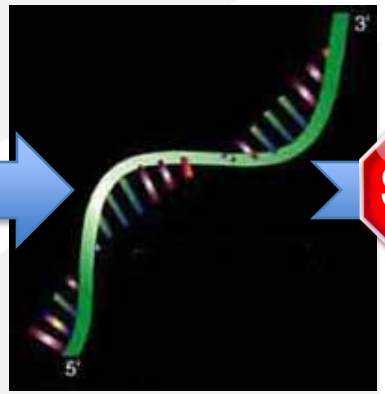
Gene silencing for Huntington's Disease

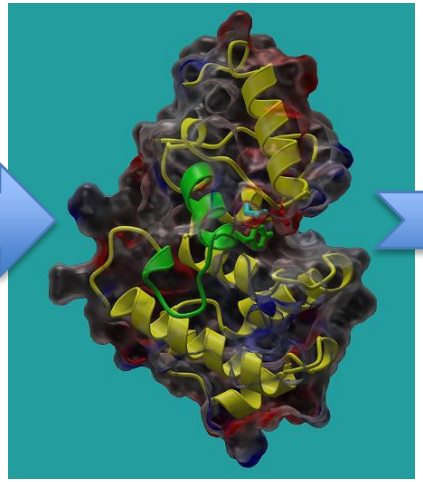
Mutant HD Gene



Huntingtin Messenger RNA

STOP

GENE SILENCING THERAPY

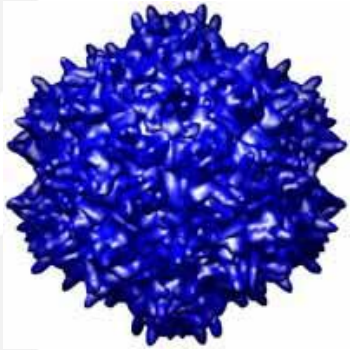


Mutant Huntingtin Protein

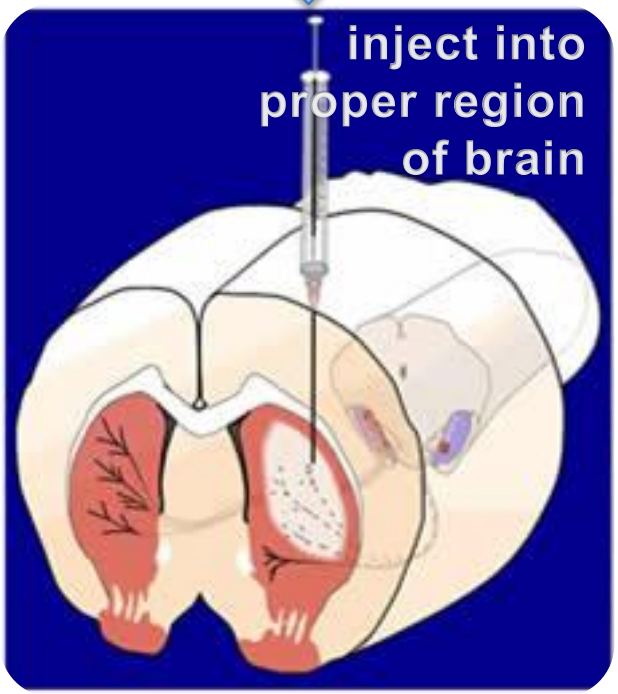
Disease

Viruses are Tools for Gene Silencing

genetic material for silencing

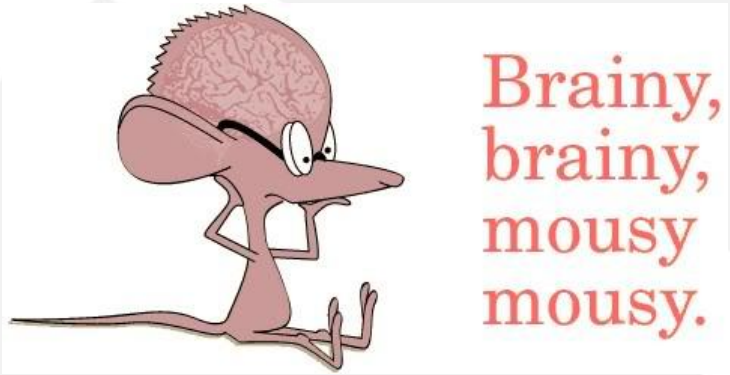


package into virus for transfer



The Mouse as a Model for Human Disease

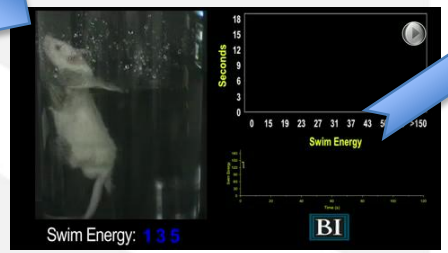
- Striking similarity to humans in anatomy, physiology, and genetics
- Cost-effective and efficient tool to speed research and development of drug therapies
- Can manipulate the mouse genome to model diseases for which the causative gene is known

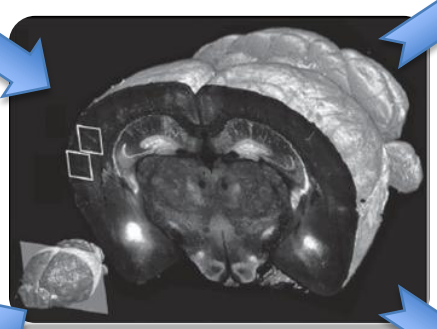


Preclinical Testing of Gene Silencing in an HD Mouse

inject virus

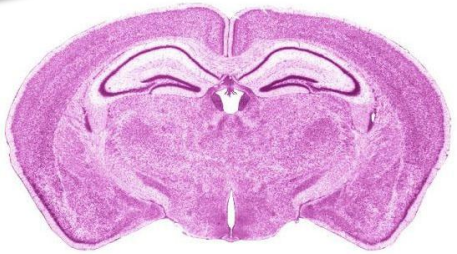
measure performance



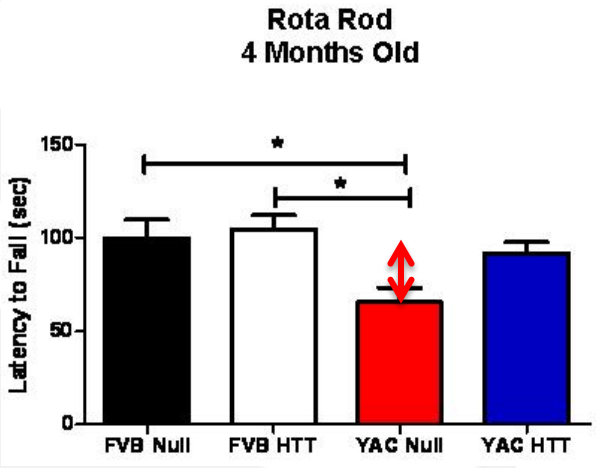


collect brain tissue

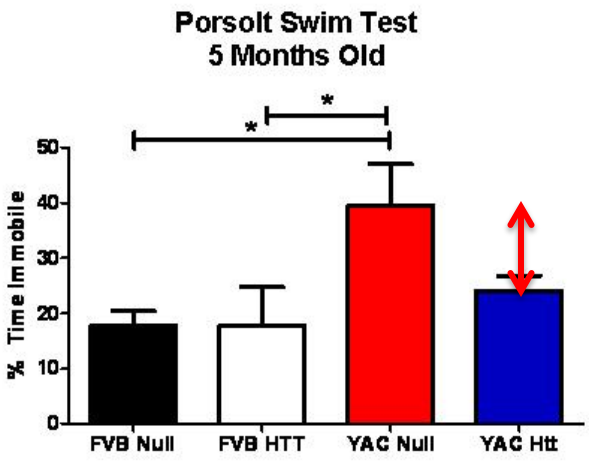
measure gene expression



Viral-Mediated Gene Silencing Improves Motor Deficits and Depressive Behavior in HD mice

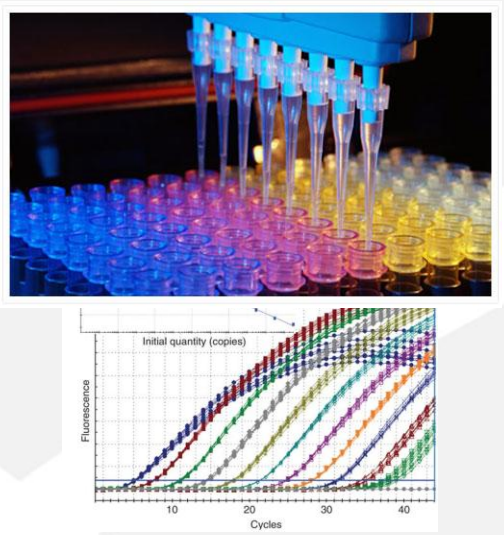


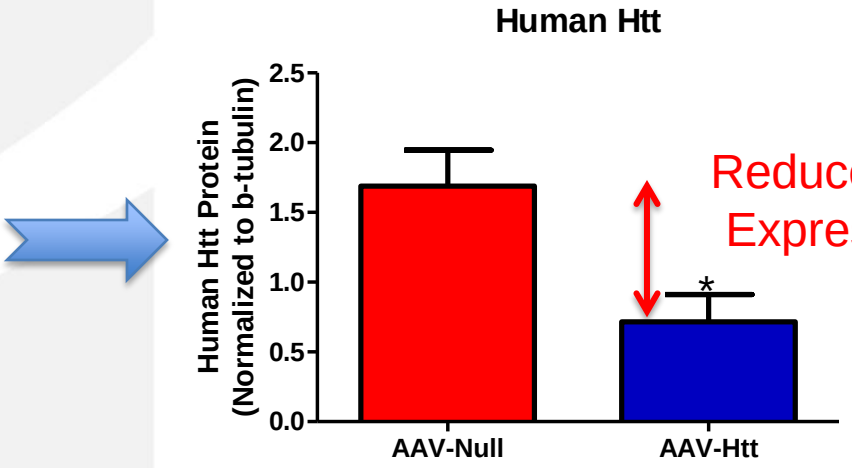
improved
motor function

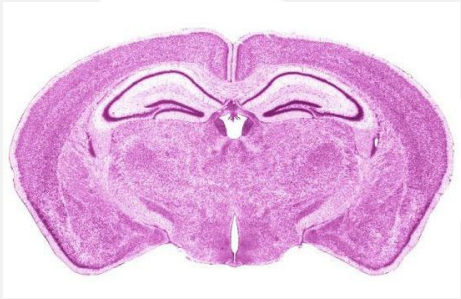


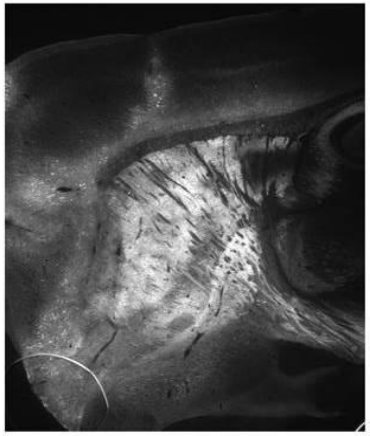
improved
depressive behavior

Viral-Mediated Gene Silencing Reduces Mutant Htt Levels in the Striatum of HD mice



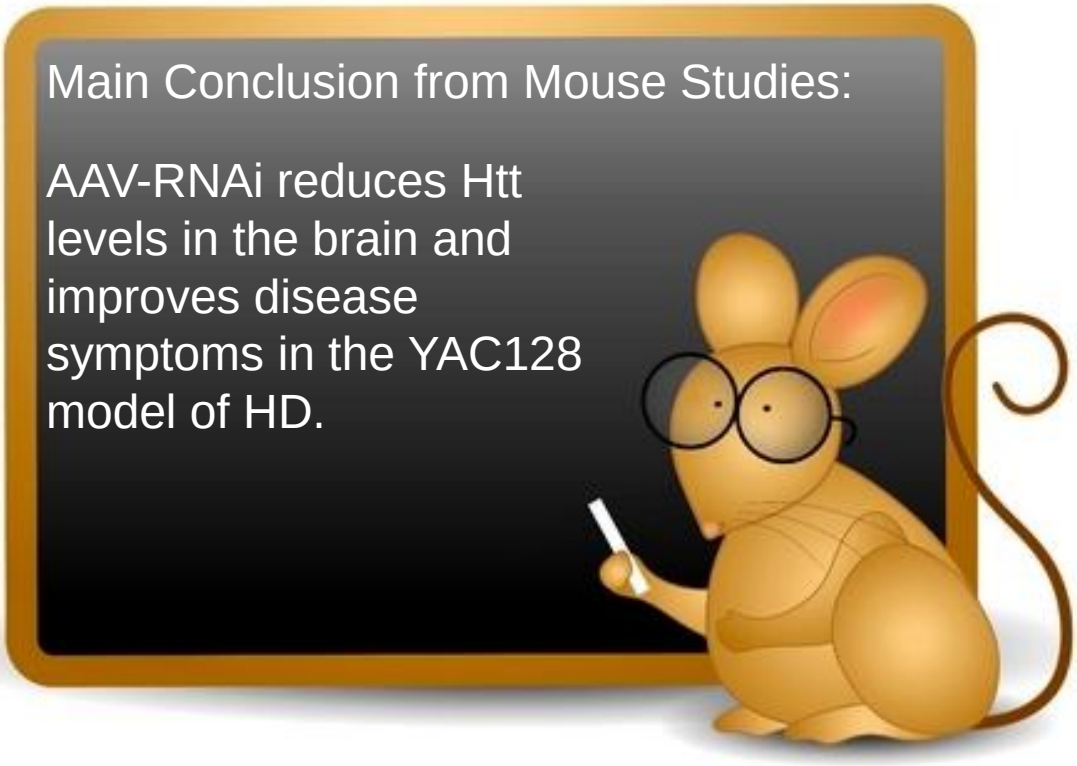


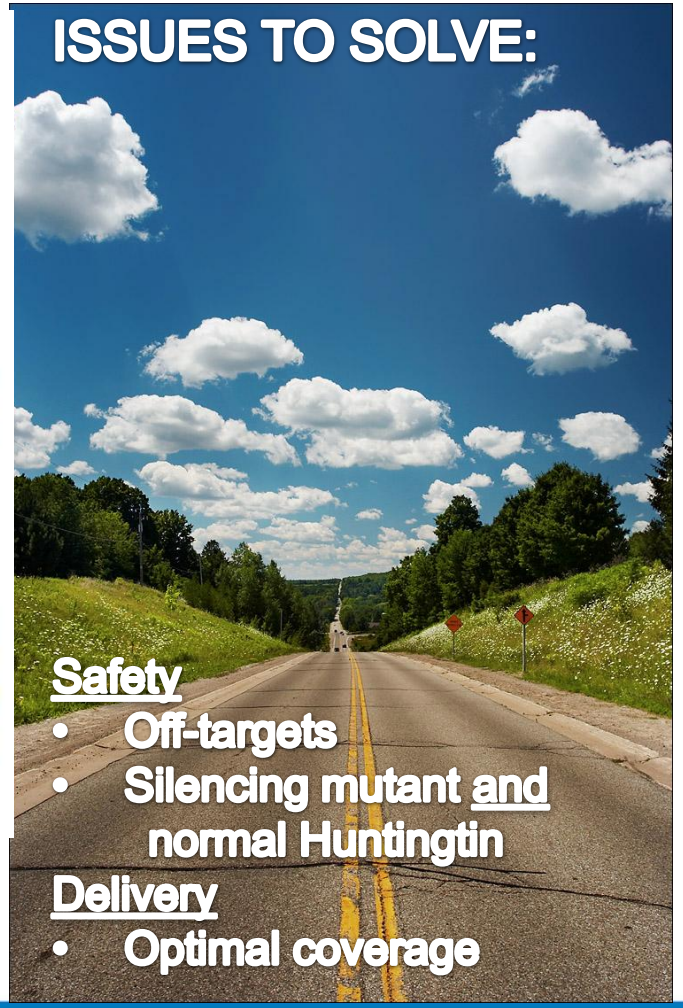




Viral Expression in Striatum

The Road Ahead for Gene Silencing Treatment for HD





Presenter Disclosures

Lisa M. Stanek

The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

Paid employee of Genzyme, a Sanofi Company

Huntington's Disease Society of America