

Novel AAV capsid Pep2hSC1 demonstrates improved tropism for human microglia

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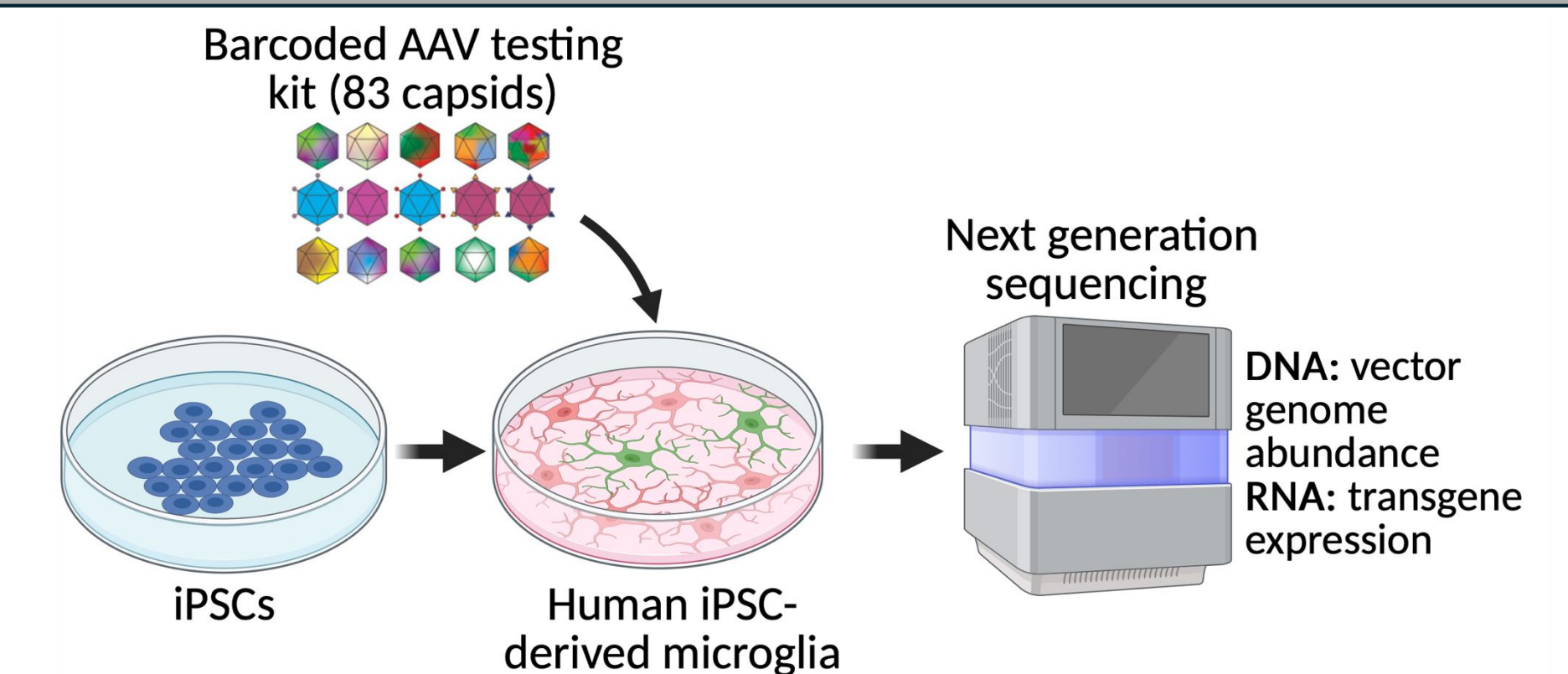
The problem:

- **Microglia**, the resident immune cells of the central nervous system, become **dysregulated** in neurodegenerative diseases, including Alzheimer's disease
- **Restoring microglial function** represents a promising therapeutic strategy
- Progress is **limited by inefficient gene delivery**
- Current viral approaches show **poor transduction efficiency in microglia**
- While **bioengineered adeno associated virus (AAV) capsids** improve targeting in **mice**, **AAVs for human microglia remain lacking**

Key Gap: No AAV exists for efficient gene delivery to human microglia

Our approach:

To address this gap, we performed a **high-throughput screen of 83 natural and bio-engineered AAVs** to identify vectors that could effectively transduce induced pluripotent stem cell (iPSC)-derived human microglia.



Results

High-throughput AAV screen in human microglia identified Pep2hSC1 as a candidate AAV capsid

