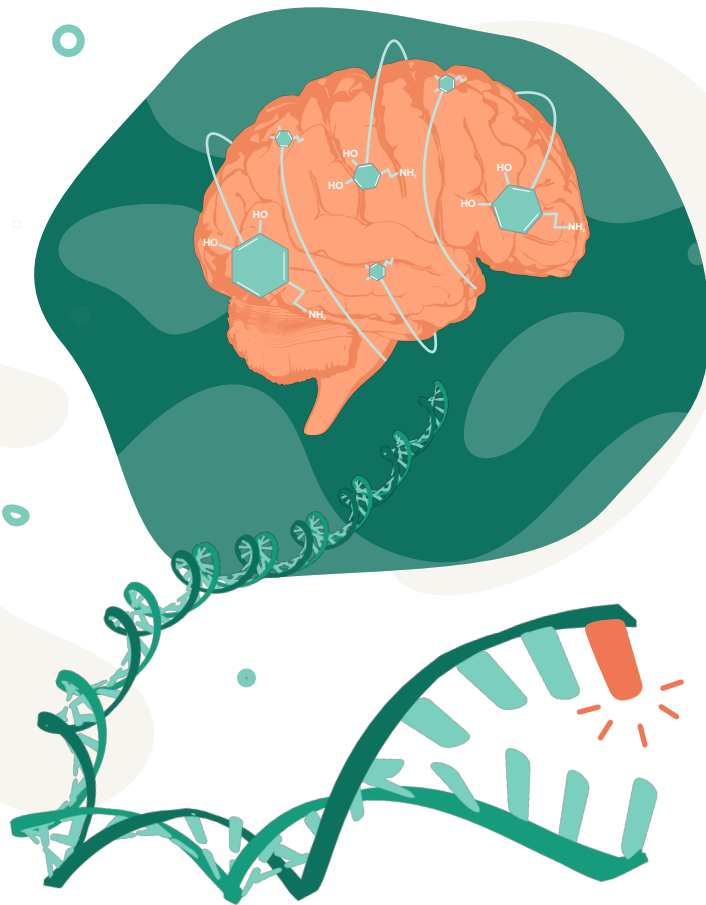
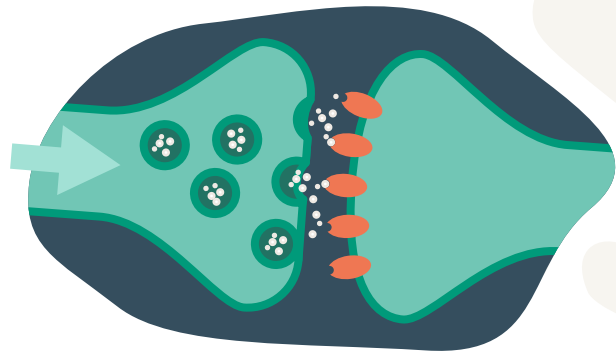


Gene Therapy for Parkinson's Disease

Important Enzymes

Dopamine is a neurotransmitter that provides signaling from one nerve cell to another. Three enzymes help our brain create dopamine: TH, CH1 and AADC.



Creating Dopamine

The Tyrosine Hydroxylase enzyme allows brain cells to convert an amino acid, Tyrosine, into L-DOPA. The AADC enzyme then converts L-DOPA into dopamine. As Parkinson's disease progresses, the brain creates less of these enzymes. This results in critically low levels of dopamine in the brain, limiting control of movement.

How Gene Therapy Can Help

Gene therapy can deliver working genes into brain cells, instructing them to increase production of these enzymes. This is done using a vector, which is often derived from viruses, but all viral genes are removed.

Working Together

With more TH and AADC enzymes present in the brain, the brain can make more dopamine, and L-DOPA medication can go to work and effectively regulate levels of dopamine in the brain, leading to better control of movement for a longer time.

