Assessment of AAV Vector Biodistribution Using PET Scanning of $^{124}$I-Labeled AAV Vectors

**Goal**
- Non-invasive assessment of the biodistribution of AAV vectors

**Strategy**
- $^{124}$I (cyclotron generated, half-life 4.5 days) covalent labeling of the AAV capsid
- Administration to nonhuman primates
- PET scanning
Why Not Use the Intravenous Route?

124-I labeled vectors administered intravenously to adult nonhuman primates

AAVrh.10

Liver

Thyroid

AAV9

Liver

Day 2

Day 2
Intracisternal Administration

AAVrh.10, intracisternal

Liver

Day 2

AAV9, intracisternal

Liver

Day 2
Why Consider Immunosuppression?

AAV9, intracisternal naive
Liver
Day 2

AAV9, intracisternal anti-AAV9 immune
Spleen
Day 2