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Supplemental Information

Improved Noninvasive *In Vivo* Tracking of AAV-9 Gene Therapy Using the Perchlorate-Resistant Sodium Iodide Symporter from Minke Whale

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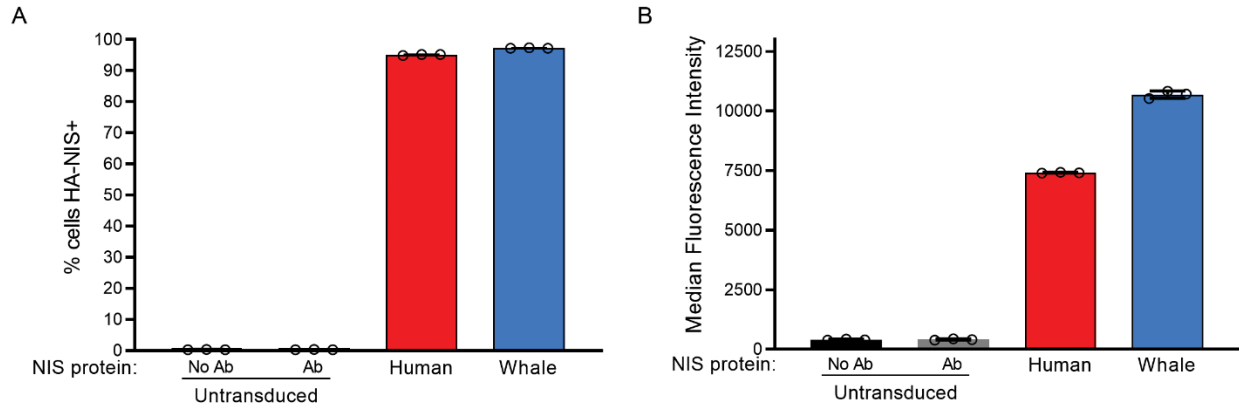


Figure S1. Flow cytometry characterization of lentivirally-transduced HeLa cells expressing HA-human NIS and HA-minke whale NIS. A) Percentage of puromycin selected lentivirally-transduced HeLa cells positively stained with α -HA-AlexaFluor647 antibody. B) Mean fluorescence intensity of puromycin selected lentivirally-transduced HeLa cells stained with α -HA-AlexaFluor647 antibody.

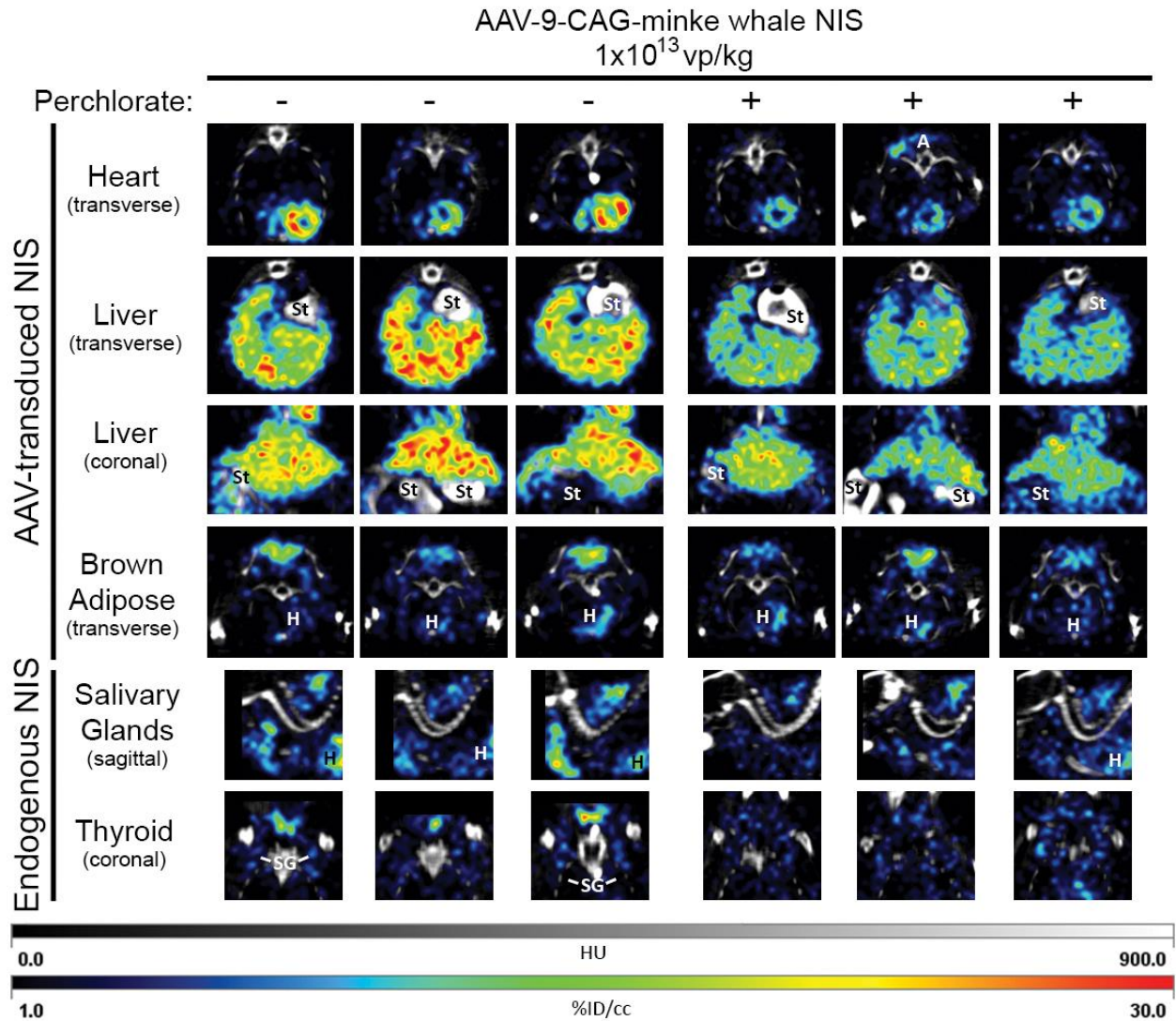


Figure S2. SPECT/CT with ^{99m}TcO₄ with high dose AAV-9-CAG-minke whale NIS and perchlorate. SPECT/CT slices in mice transduced with 1x10¹³ vp/kg AAV-9-CAG-human NIS or AAV-9-CAG-minke whale NIS imaged with ^{99m}TcO₄ in the absence or presence of 100 μM blood concentration perchlorate. The brightest slices of each organ are represented for each of the three mice in both groups. Labels indicate organs in the imaging field which are not the focus of the slice; A = adipose; St = stomach and small intestine; H = heart; T = thyroid; SG = salivary glands. HU = Hounsfield units; %ID/cc = percent injected dose per cubic centimeter.

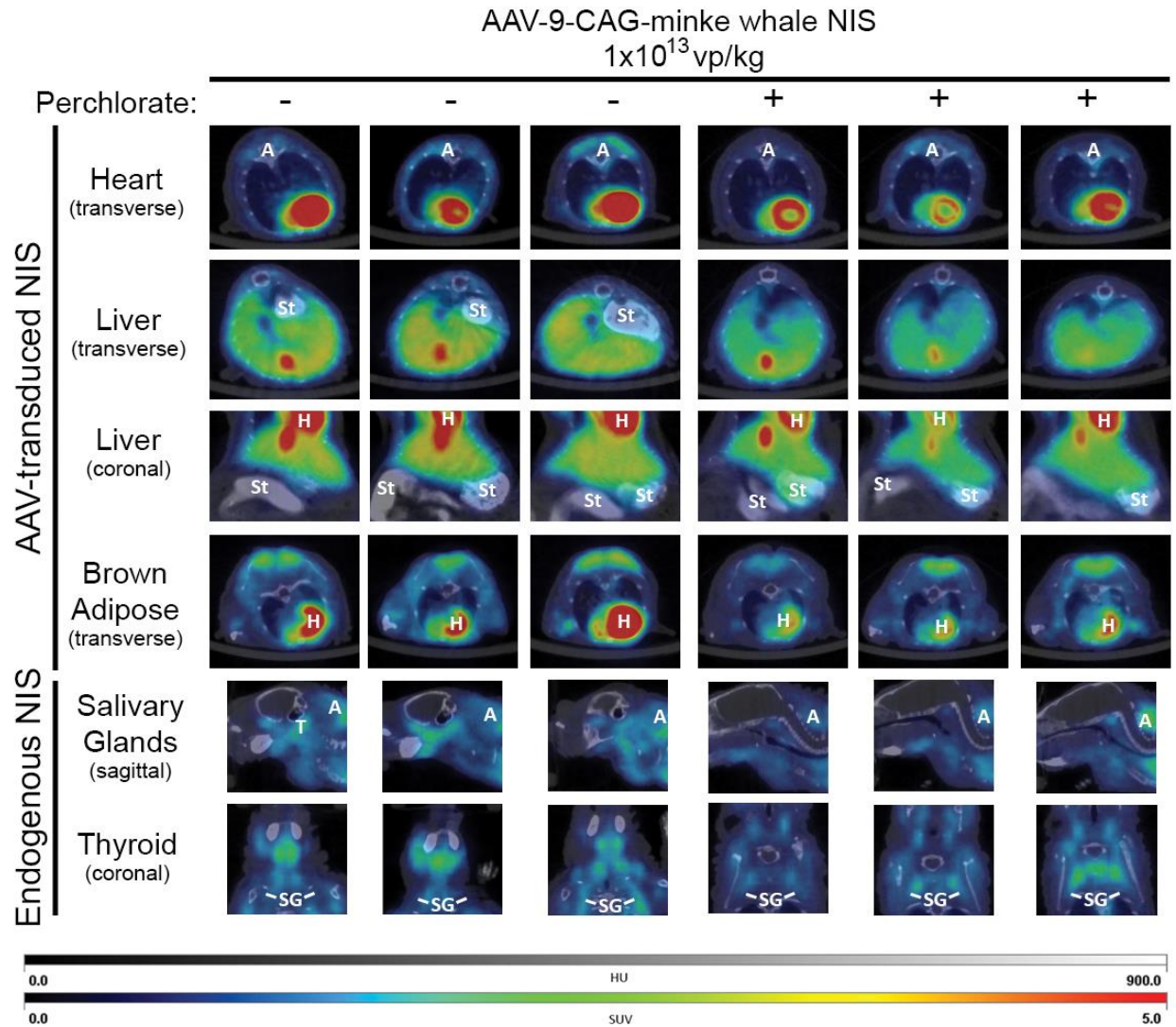


Figure S3. PET/CT with B¹⁸F₄ with high dose AAV-9-CAG-minke whale NIS and perchlorate. PET/CT slices in mice transduced with 1x10¹³ vp/kg AAV-9-CAG-minke whale NIS imaged with B¹⁸F₄ in the absence or presence of 100 μM blood concentration perchlorate. The brightest slices of each organ are represented for each of the three mice. Labels indicate organs in the imaging field which are not the focus of the slice; A = adipose; St = stomach and small intestine; H = heart; T = thyroid; SG = salivary glands. HU = Hounsfield units; SUV = standardized uptake value.