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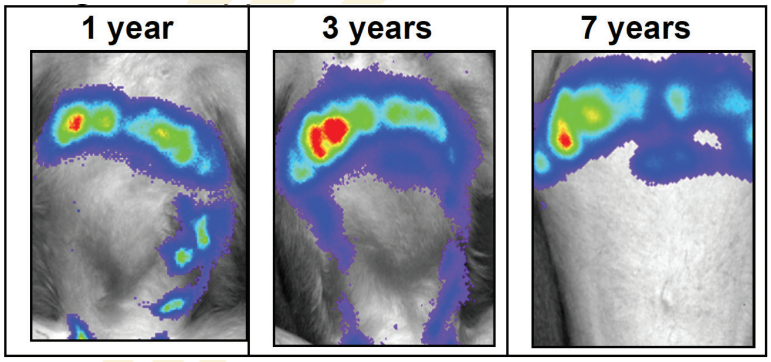
ALICE F. TARANTAL, PhD

Core Scientist and Unit Leader, Reproductive Sciences and Regenerative Medicine, Core Lead, Multimodal Imaging Core; Professor and Vice Chair for Research, Department of Pediatrics and Department of Cell Biology and Human Anatomy, School of Medicine

Regenerative Medicine and Gene Therapy, Models of Congenital and Acquired Diseases, Viral Teratogens, Translational *In vivo* Imaging

Dr. Tarantal's translational research program has a particular focus on the fetus and infant with ongoing studies that focus on novel models, fetal therapies, and the early onset of disease, and the use of *in vivo* imaging modalities. She has a long-standing and productive track record in fostering partnerships and developed imaging capabilities for the conduct of studies with monkey models for human health and disease. She has studied human and nonhuman primate stem and progenitor cells from a lifespan perspective, and developed methods to monitor cell trafficking and fate. She conducts preclinical studies with collaborative partners around the U.S. and internationally.



The use of noninvasive imaging to monitor cell transplant outcomes and long-term gene expression post-gene delivery has been a focus. This figure is an example of optical imaging outcomes in an animal that was transferred prenatally. This shows over the span of 10 years after birth that gene expression could be detected in the diaphragm without any evidence of immune responses or adverse effects. Long-term gene expression and safety are two major issues that must be explored in nonhuman primates before considering such approaches in human fetuses, infants, and children.

The leap from preclinical discovery to human subjects research is challenging, and Dr. Tarantal's program and extensive collaborative efforts with investigators nationwide have proven crucial in navigating the regulatory process and conducting studies that provide data for new Phase I clinical trials.

Tarantal AF and Skarlatos SI
Center for Fetal Monkey Gene Transfer for Heart, Lung, and Blood Diseases: An NHLBI resource for the gene therapy community. Human Gene Therapy 23:1130-1135, 2012. PMCID: PMC3498881

Corti M, Cleaver B, Clément N, Conlon TJ, Faris KJ, Wang G, Benson J, Tarantal AF, Fuller D, Herzog RW, and Byrne BJ
Evaluation of re-administration of a recombinant adeno-associated vector expressing acid alpha-glucosidase (rAAV9-DES-hGAA) in Pompe disease: Preclinical to clinical planning. Human Gene Therapy – Clinical Development 26:185-193, 2015. PMCID: PMC:4606909

Tarantal AF, Lee CI, Martinez ML, and Samulski RJ.
Systemic and persistent muscle gene expression in rhesus monkeys with a liver de-targeted adeno-associated virus vector. Human Gene Therapy 28:385-391, 2017. PMCID: PMC5444483

To contact Dr. Alice Tarantal and for more information on her research, see:
http://www.cnprc.ucdavis.edu/alice-tarantal/

The mission of the CNPRC is to improve human health and quality of life through support of exceptional nonhuman primate research programs.