



Douglas B. Snider



Research Emphasis:

Dr. Snider's research interests include mechanisms of disease, treatment of inflammatory and allergic disease, and safety pharmacology. Targeted delivery of oligonucleotide-based therapeutics represents an opportunity for precision control of cell phenotypes and therefore mitigation of immune-mediated disease. Therapeutics are designed to interrupt signaling pathways of canonical activation, function, and phenotypes of immune cells including mast cells. Primary tasks include delivery moiety design, efficacy evaluation, pharmacokinetics including monitoring compartmental biodistribution and subcellular trafficking, and monitoring pathology endpoint (i.e. integrated safety evaluation of potentially therapeutic compounds). Additional projects evaluate controlled release of compounds and passive targeted delivery with nanomaterials

Applications:

- Allergic disease
- Pseudoallergic response
- Anaphylaxis
- Mastocytosis

Research Strengths:

- Oligonucleotide therapeutics
- Cell penetrating peptides
- Cell targeting peptides
- Pathology endpoints
- Mouse models of allergic disease
- Mast cell culture
- In vitro efficacy testing
- In vivo models of cancer

Select Publications and Abstracts:

1. The FcεRIβ homologue, MS4A4, promotes FcεRI signal transduction in human mast cells. March 2019 (Manuscript accepted for review)
2. Targeting c-Kit expression with mRNA frameshifting oligonucleotides induces mast cell death in vitro and in vivo. April 2019 (Manuscript accepted for review)
3. Smart nanoparticles for drug delivery: Uptake, cytotoxicity, safety, and release of therapeutics. August 2018
4. Smart nanoparticles for drug delivery: Response to environmental cues. August 2018
5. Laser-induced choroidal neovascularization in the Yucatan Minipig – Characterization of a novel model of neovascular age-related macular degeneration. 2017
6. Lamoureux J, Snider DB, Ashley MS, and Nelson KG. Regional variation in skin histology of Göttingen minipigs. June 2017.
7. Intentionally reduced intestinal barrier integrity causes inflammation, affects metabolism, and reduces productivity in lactating Holstein cows. March 2017.
8. Detritic granuloma associated with orthopedic implant device failure. August 2015

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