



Mary Katherine Sheats



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Title: Assistant Professor of Equine Primary Care

Research emphasis:

Neutrophils are the most abundant leukocyte of the innate immune system. They play an indispensable role in host defense and healing, but they are also culpable for tissue injury in human and veterinary patients suffering from numerous diseases including inflammatory airway disease, ischemia-reperfusion injury and acute infection.

Dr. Sheats's lab is focused on investigating the innate immune response both systemically and within specific tissues. She is specifically interested in mechanisms of neutrophil-mediated tissue damage and identifying new targets to modulate neutrophil responses.

Selected publications:

Ott LE*, Sung EJ*, Melvin AT, **Sheats MK**, Haugh JM, et al. (2013) Fibroblast Migration Is Regulated by Myristoylated Alanine-Rich C-Kinase Substrate (MARCKS) Protein. PLoS ONE 8(6): e66512. (*co-first authors). PMID: 23840497

Sheats MK, Pescosolido KC, Ethan M. Hefner, Sung EJ, Adler KB, Jones SL. (2014) Myristoylated Alanine Rich C Kinase Substrate (MARCKS) is essential to β 2-integrin - dependent responses of equine neutrophils. Vet Immunol Immunopathol, 160 (3-4): 167-76. PMID: 24857637

Sheats MK*, Sung EJ*, Adler KB, Jones SL. (2015) In vitro neutrophil migration requires protein kinase c-delta (δ -PKC) mediated MARCKS (Myristoylated Alanine Rich C-Kinase Substrate) phosphorylation. Inflammation. 38(3):1126-41. PMID: 25515270.

Sheats MK, Till R, Jones SL. Myristoylated Alanine Rich C Kinase Substrate (MARCKS) is involved in "outside-in" β 2-integrin function in neutrophils. Abstract Presentation: Annual Meeting of the Society for Leukocyte Biology, "Immunity in Health and Disease," Raleigh, NC. (2015)

Application:

- Inflammatory Airway Disease
- Systemic Inflammatory Response
- Neutrophil Function

Collaboration potential:

- Novel anti-inflammatory therapies
- Early disease diagnosis and interventions
- Host-pathogen interactions