



### Stephanie E. Johnstone



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### Drug Discovery for Allergy and Inflammation

#### Research emphasis:

Stephanie's research focuses on discovering small molecules isolated from natural products to treat allergic and inflammatory responses stemming from viral infectious disease. Recent work with alkylamides derived from the plant *Echinacea* has yielded novel molecules to treat inflammation and pain by inhibiting activation of cation channels in numerous cell types. This selective inhibition could allow for development of next generation analgesics.

#### Applications:

- Drug development
- Analgesia
- Inhibition of allergic response

#### Research Strengths:

- *In vitro* tissue culture assays
- Epifluorescence microscopy
- Virological methodologies

#### Publications and Abstracts:

**Johnstone, S.**, Barsova, J., Campos, I., Frampton, A. (2016) Equine herpesvirus type 1 modulates inflammatory host immune response genes in equine endothelial cells. *Veterinary Microbiology*, 192: 52-59.

Gulledge, T., Collette, N., Mackey, E., **Johnstone, S.**, Moazami, Y., Todd, D., Moeser, A., Pierce, J., Cech, N., and Laster, S. (2018) Mast cell degranulation and calcium influx are inhibited by an *Echinacea purpurea* extract and the alkylamide dodeca-2E,4E-dienoic acid isobutylamide. *J Ethanopharmacol*, 212: 166-174.