

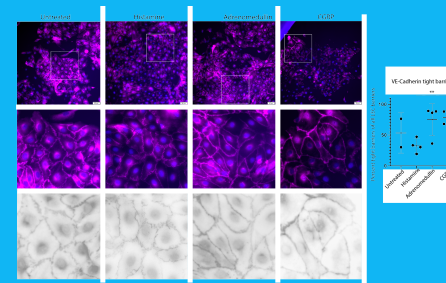
Sex Differences in CGRP Response in Lymphatic Endothelial Cells (LECs)

Aisha Siddiqui

Major: Biology (B.S.)

Faculty Advisor: Dr. Kathleen Caron

Cell Biology and Physiology Department



Provided by Nate Nelson-Maney,
graduate student mentor

Research Question

- Do Male and Female cells respond differently to CGRP?
- Currently, no conclusions have been drawn in regards to sexual dimorphism in CGRP response. CGRP increase is a characteristic of migraines. Since migraines effect 15% of the global population, research on CGRP behavior would greatly benefit society and those effected by migraines.

Results

- There was a dramatic increase in fold change for CLR protein in Female adrenomedullin and CGRP treated LECs.
- Males LECs downregulate Ramp 3 when treated with adrenomedullin.
- These results are important to a scholarly community because it is consistent with literature available on adrenomedullin. CGRP and adrenomedullin appear to trend similarly when looking at the CLR protein, so it is expected that further experiments with CGRP will behave like adrenomedullin. Additionally, Ramp 3 may be differentially expressed with genetic influences rather than hormonal influences, which gives insight to the sex differences of the CGRP peptide.
- This research work provides foundational information about key peptides involved with migraines, thus benefiting a general audience. By understanding the molecular process, treatments for migraines can become more well-informed.