Human trigeminal ganglia possess oxytocin receptors on CGRP positive neurons, the expression of which is dramatically increased by inflammation

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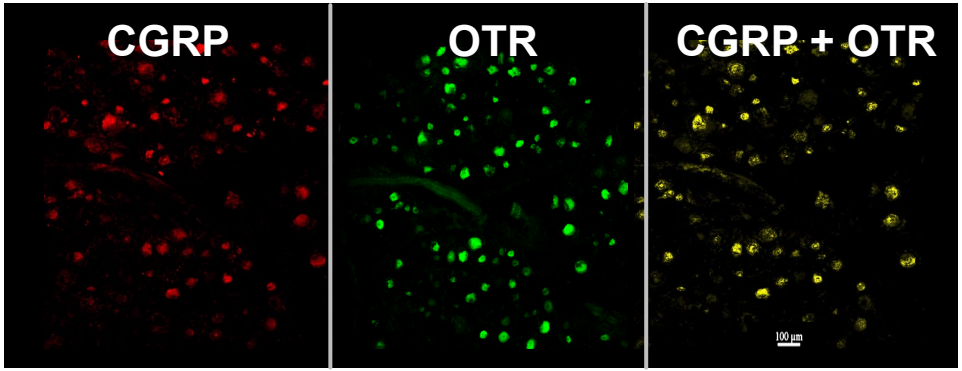
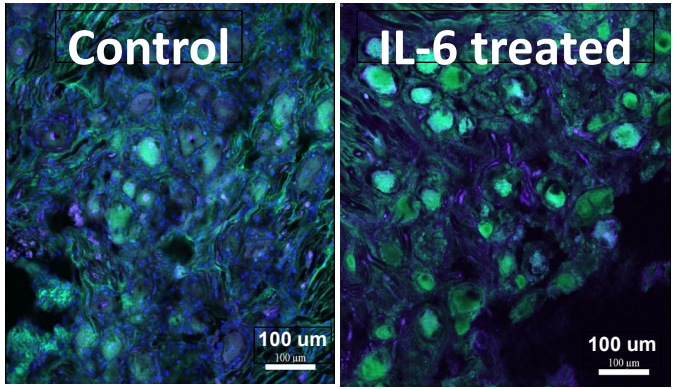
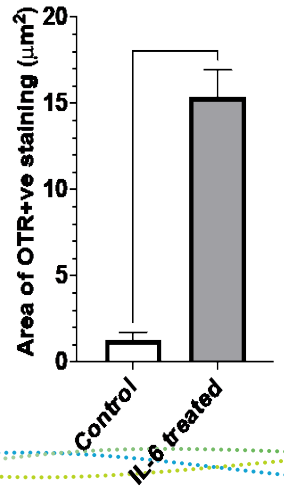
What is the substrate for oxytocin's inhibition of TG neurons, causing craniofacial analgesia?



1. As in rats, human TG express oxytocin receptors (OTR) on CGRP positive neurons





2. As in rats, exposure to IL-6 inflammatory cytokine induces upregulation of OTR on human TG neurons

CONCLUSIONS

1. As in rats, human cadaverous TG neurons express oxytocin receptors and co-express CGRP.

2. As in rats, exposure to IL-6 for 4 hours induces robust upregulation of OTR on human TG neurons.

3. Expression of OTR on human CGRP positive TG provides an anatomical substrate for the inhibition of trigeminal neurons (and hence headache pain) by oxytocin.