

Investigating Anti-Inflammatory Roles of Oxytocin and Secretin on the Ocular Surface

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BACKGROUND

Oxytocin (OXTR) and secretin (SCTR) receptors have anti-inflammatory and anti-nociceptive roles in various tissues. This study’s purpose is to define the presence of OXTR and SCTR within ocular tissues, to establish their basis as potential targets for dry eye disease.

METHODS

- 1. Immunofluorescence imaging of human cornea and conjunctiva, and mouse whole eyes and eyelids with anti-OXTR and SCTR antibodies.
- 2. Gene expression analysis of human and mouse ocular tissues to quantitatively define *Oxtr* and *Sctr* presence in individual tissues.

RESULTS

- OXTR and SCTR are visualized on human cornea and conjunctiva. OXTR and SCTR are seen on mouse cornea, conjunctiva, and meibomian glands.
- Highest levels of *Oxtr* are found in human and mouse conjunctiva.

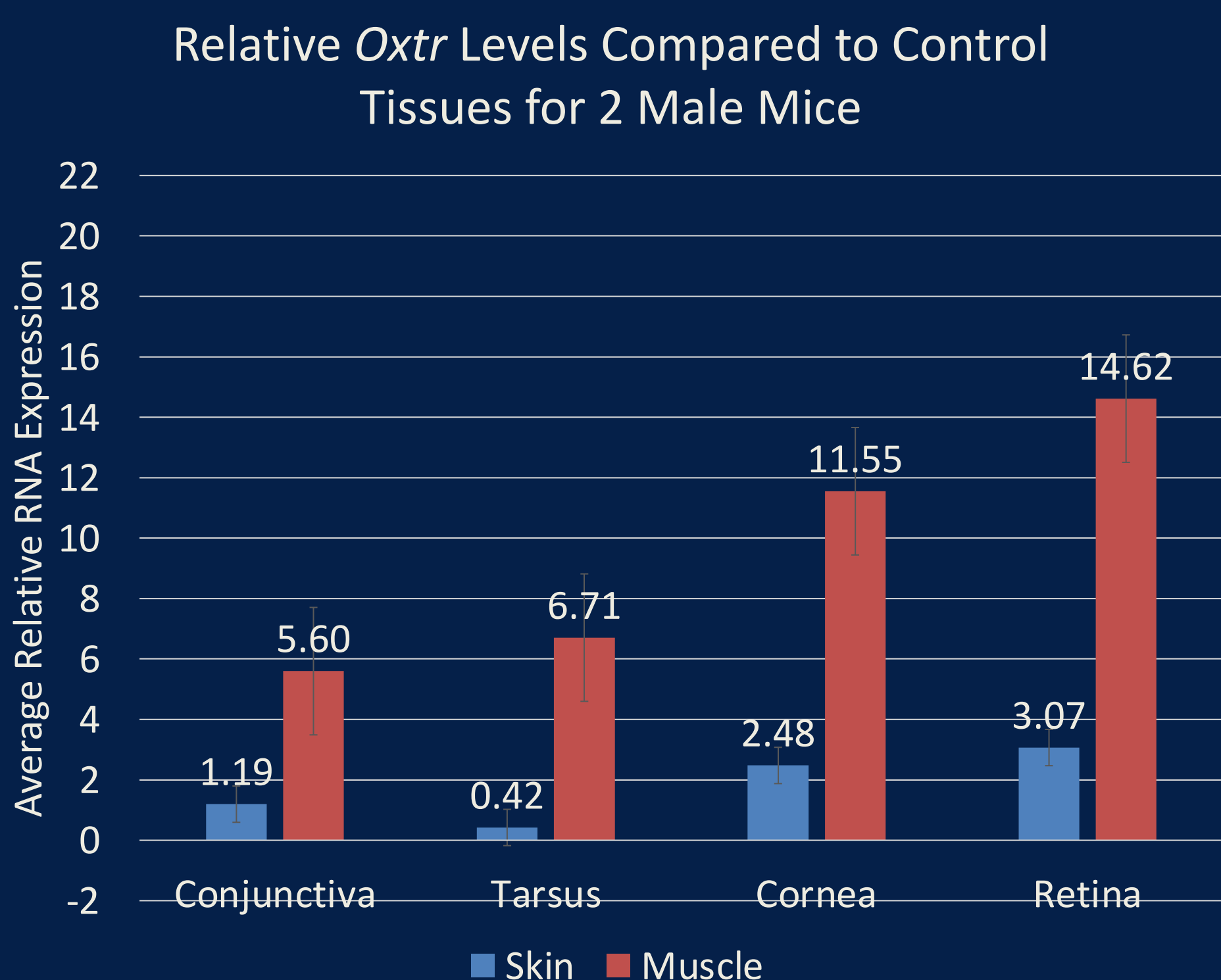
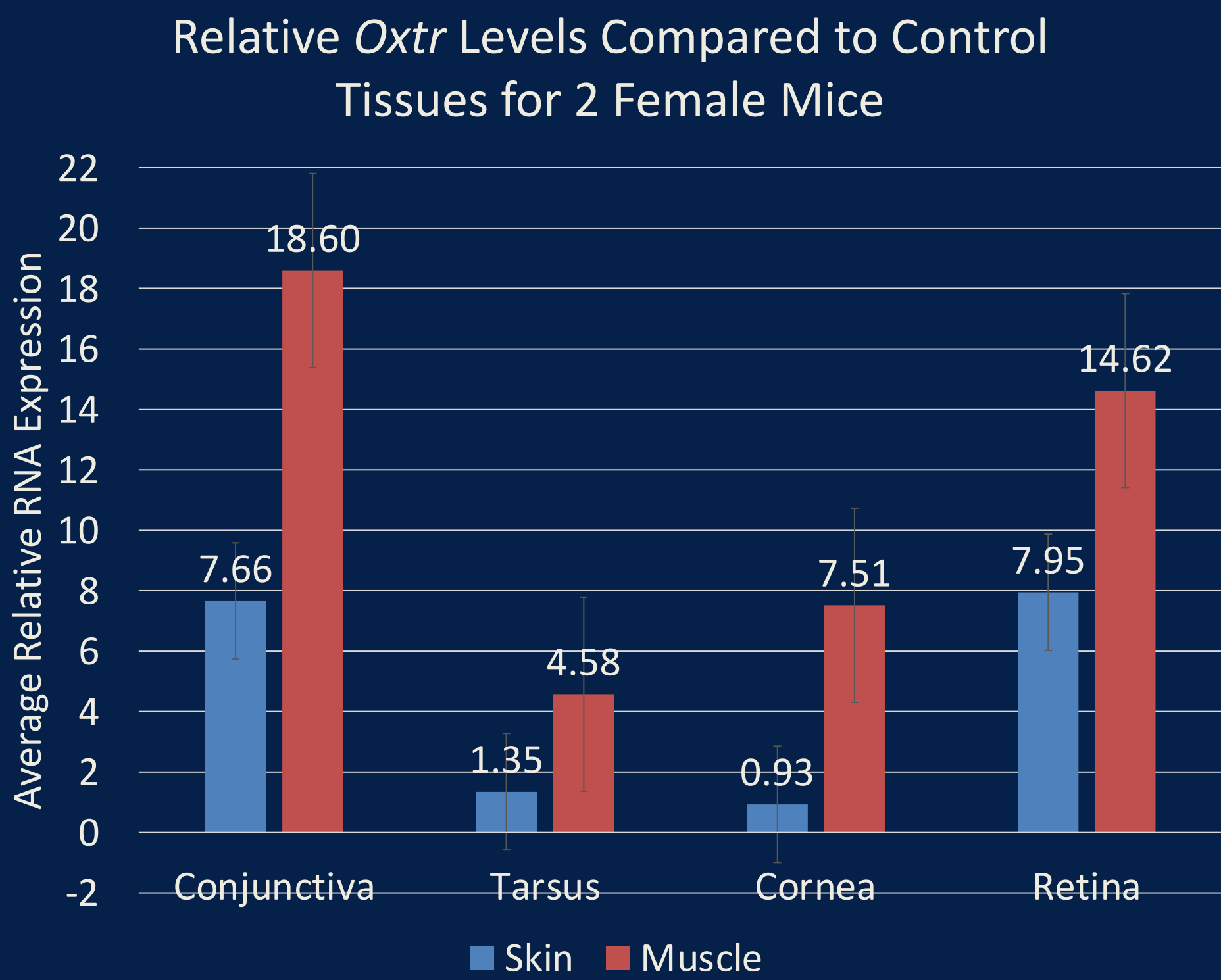
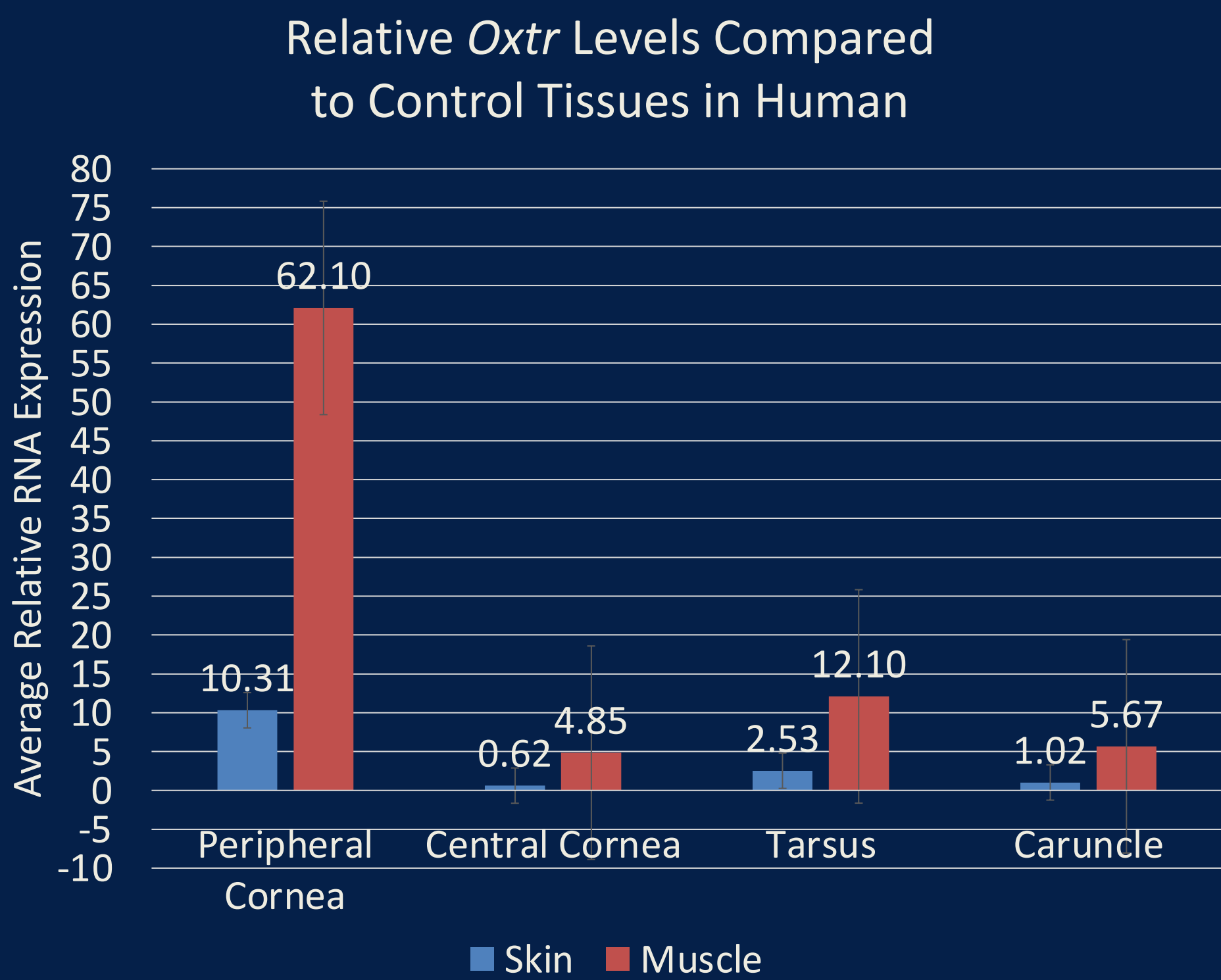
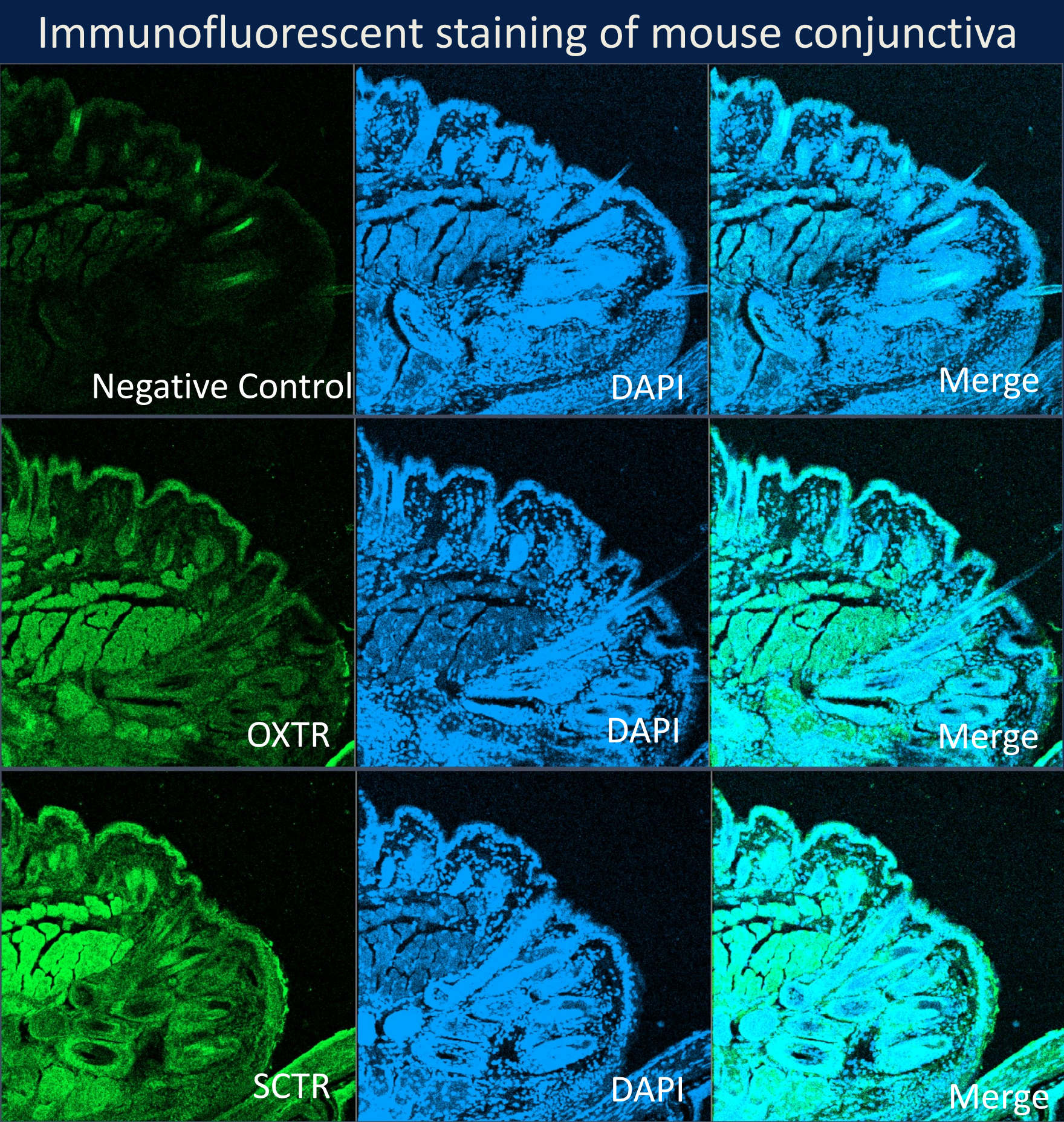
DISCUSSION

This project confirms the presence of OXTR and SCTR on the ocular surface. Next steps will focus on effects of OXT/SCT on anti-inflammatory & anti-nociceptive pathways within the eye.

ACKNOWLEDGEMENTS

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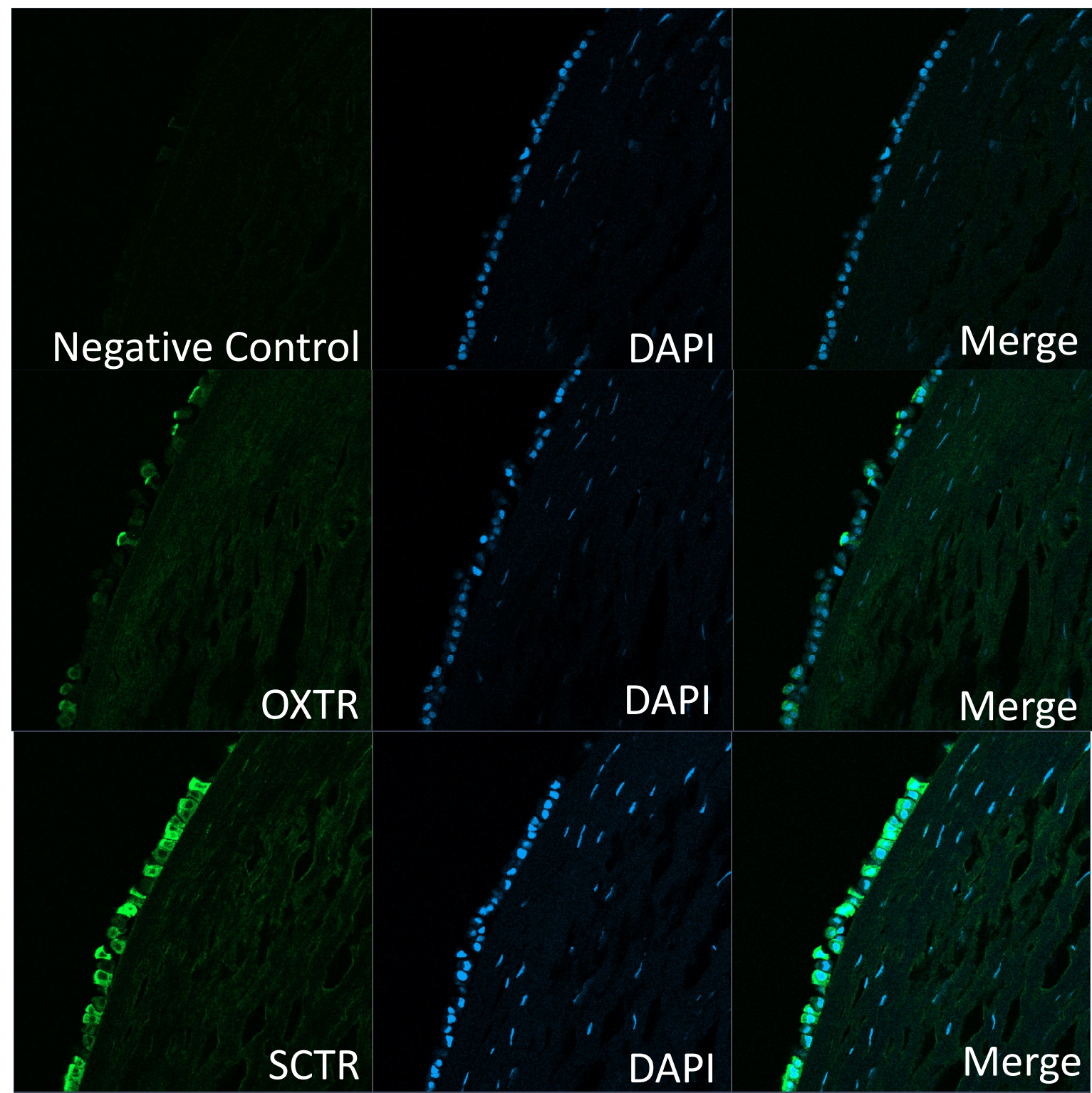
Oxytocin receptors are found abundantly in the conjunctiva of human and mouse eyes.



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There is also expression of OXTR and SCTR on human cornea and mouse meibomian glands.

Immunofluorescent staining of human cornea



Immunofluorescent staining of mouse meibomian glands

