

A Survey of Oral Cavity Afferents to the NTS

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Mentors

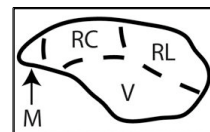
- ▶ Prof. Alev Erisir
 - UVA Department of Psychology
- ▶ Jim Corson
 - Fifth-year graduate student, UVA Psychology

Our Project

- ▶ Three gustatory nerves
 - CT – chorda tympani
 - GSP – greater superficial petrosal
 - IX – glossopharyngeal
- ▶ Each has projection to the NTS carrying taste information
- ▶ How can we better understand this circuitry

Atlas of the NTS

- ▶ Create an atlas of the CT, GSP, and IX nerve projections to the NTS in rats
- ▶ Purpose of Atlas
 - Better understanding of taste organization in the brainstem
 - Develop clear subdivisions of NTS for use in other studies



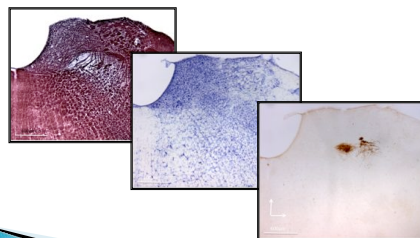
How do you make an atlas?

- ▶ Cut the nerve and insert the label
- ▶ Section the brain into three series and stain
 - DAB
 - Nissl
 - Myelin
- ▶ Using light microscopy capture high resolution images of the stained section



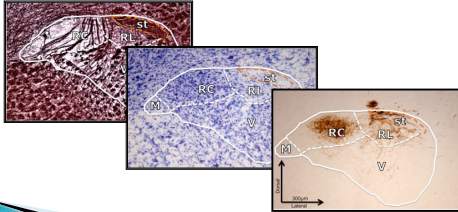
How do you make an atlas?

- ▶ Align the images of the three adjacent sections; one myelin, one nissl, one tracer

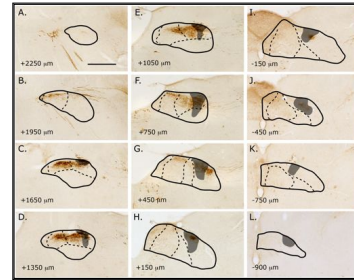


How do you make an atlas?

- ▶ Used myelin-stained images to outline NTS
- ▶ Observe the labeled inputs to the NTS



How do you make an atlas?



What's the magnitude of this?

- ▶ Nine rats
- ▶ ~28 sections per series, 3 series per brain
- ▶ High resolution required composited pictures
 - 8-10 composited pictures per section
- ▶ That's a lot of pictures!

What I learned in my lab

- ▶ About the research we've been conducting
- ▶ Lab techniques and protocol
 - sectioning using the vibratome
 - mounting and staining sections
 - taking pictures with the light microscope
- ▶ How the publication process works

Thanks to everyone in the lab!

- ▶ Prof. Alev Erisir
- ▶ Jim Corson
- ▶ Stephen Holtz
- ▶ Anqi Fu
- ▶ Alex Aldridge