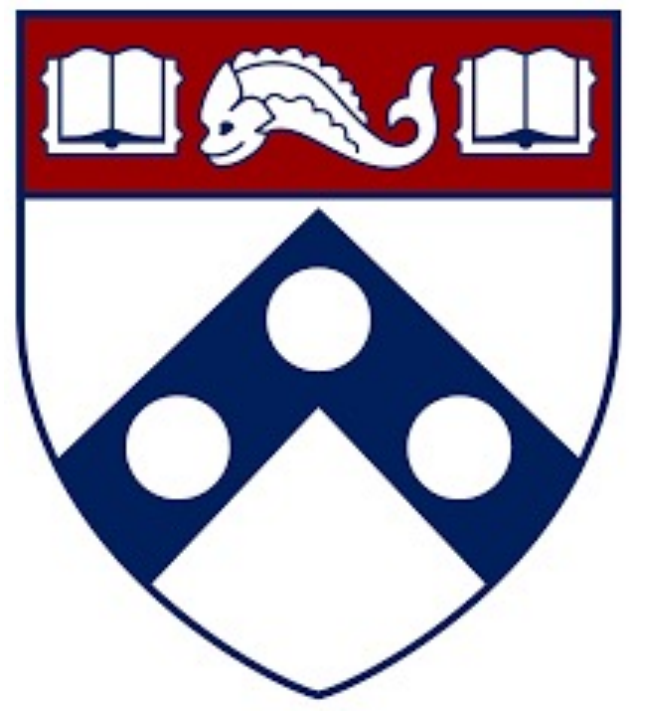


Overlap in Penk & Y1R Genes Involved in Pain & Hunger



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Introduction

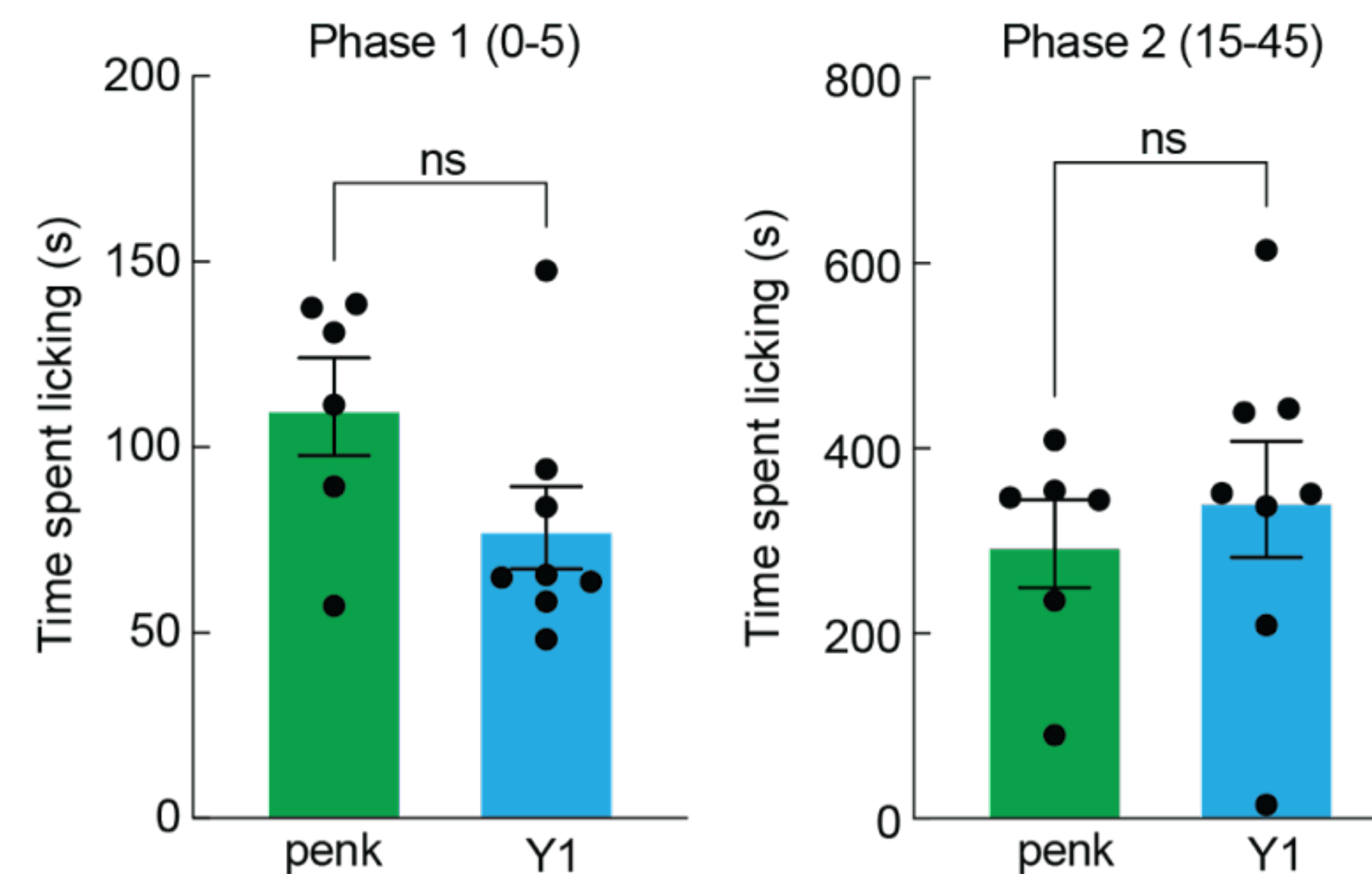
- Investigating how overlap between penk and y1r genes in PBN region of mice brains express hunger and pain
- Purpose of helping explain food-seeking behaviors in mice & how pain/fear influence those pathways

Background

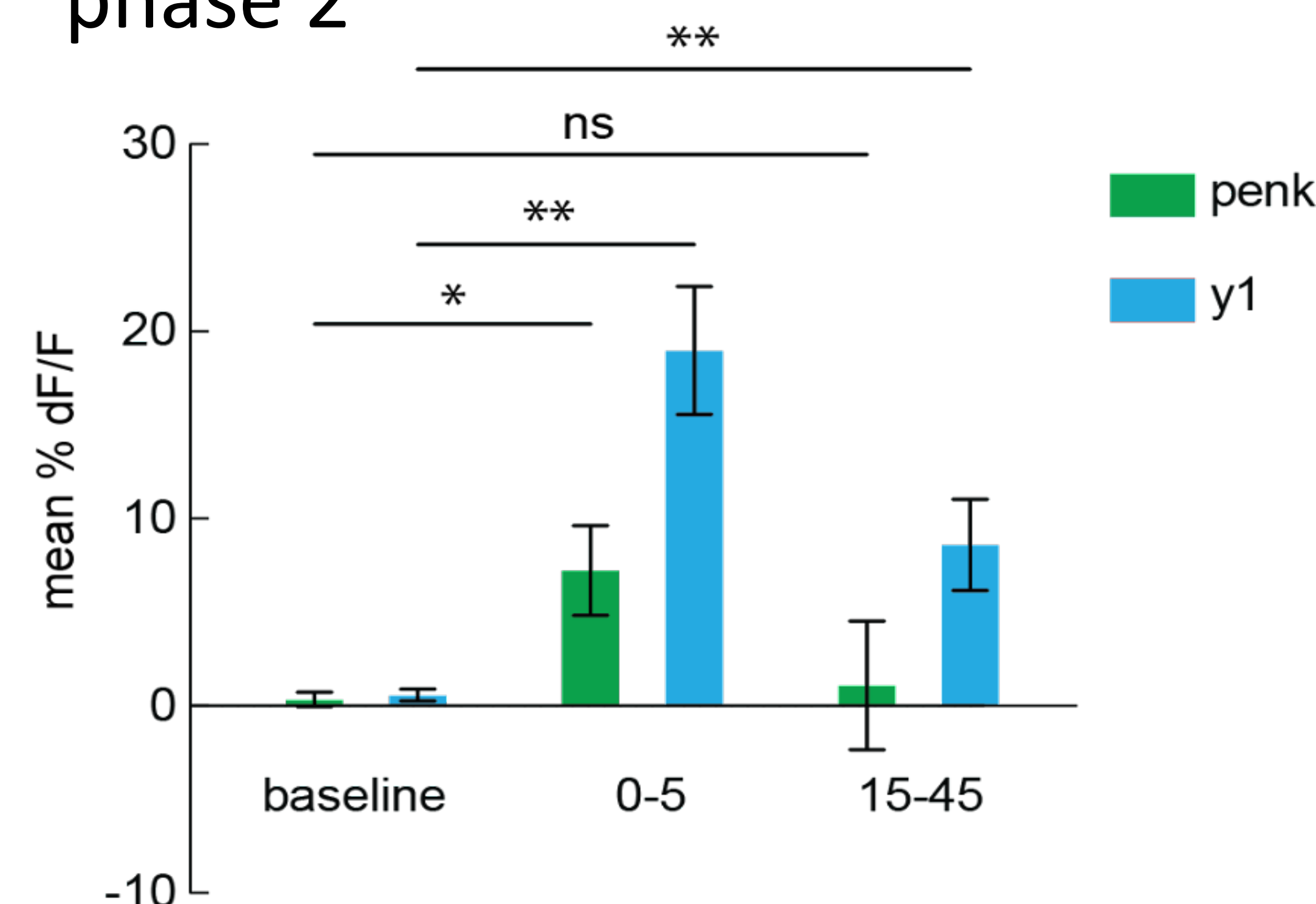
- AgRP neurons are activated by hunger and project throughout brain.
- Phase 1 is initial time right after formalin injection; Phase 2 is secondary response likely stemming from inflammation

Results

- Both groups of mice spent same amount of time licking; important because it shows no one group feels more pain at baseline



- Both penk & y1r expression increased during phase 1 of pain assay, but only y1r increased during phase 2



Methods

- View overlap between gene expression through in-situ analysis
- Conduct fiber photometry on 2 groups of mice
 - Inject each mouse with formalin to conduct pain assay
- Compare differences in penk & y1r expression throughout pain assay

Conclusions

- Something specific about y1r neurons, perhaps the ones that don't overlap with penk, cause increase in phase 2 activity
 - Further research needed to specify what exactly causes increase in phase 2 activity
- When AgRP neurons activated, y1r neurons & phase 2 deactivate (hunger-pain pathway)