



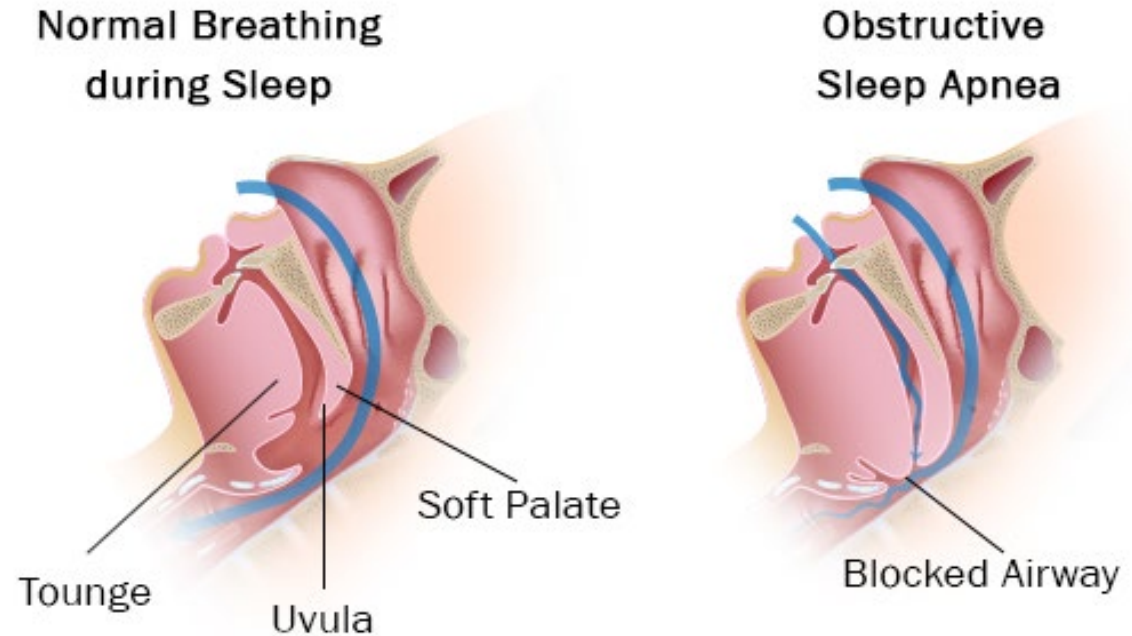
The effect of CIH on adult neurogenesis

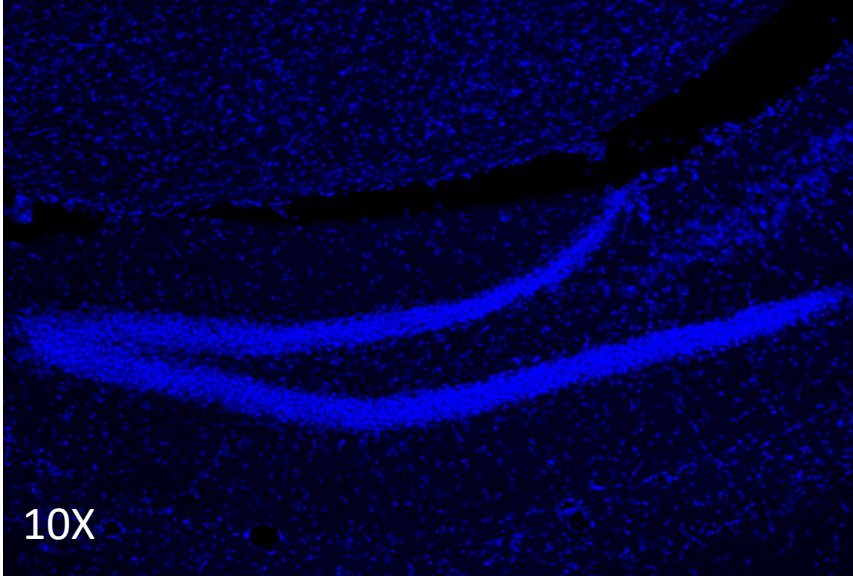
Emily Parlan

UW Neurological Surgery Summer Student Program

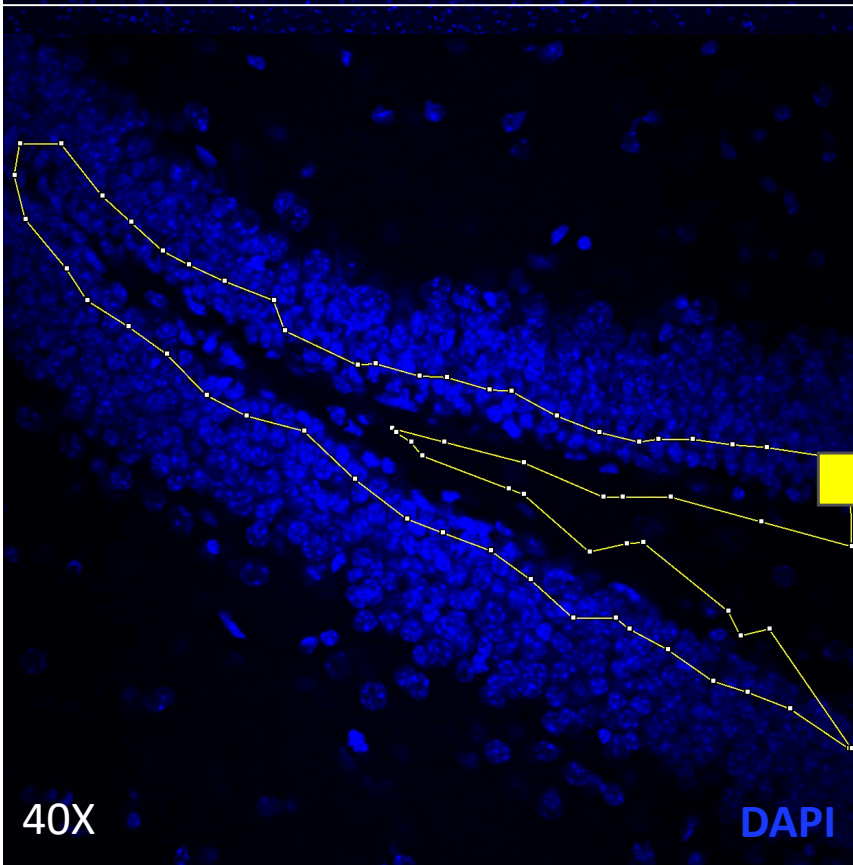
Background

- Chronic intermittent hypoxia is an established model for obstructive sleep apnea
- Obstructive sleep apnea is a highly prevalent form of sleep-disordered breathing
- Multi-system disease state affecting respiratory, cardiovascular and cognitive function





10X

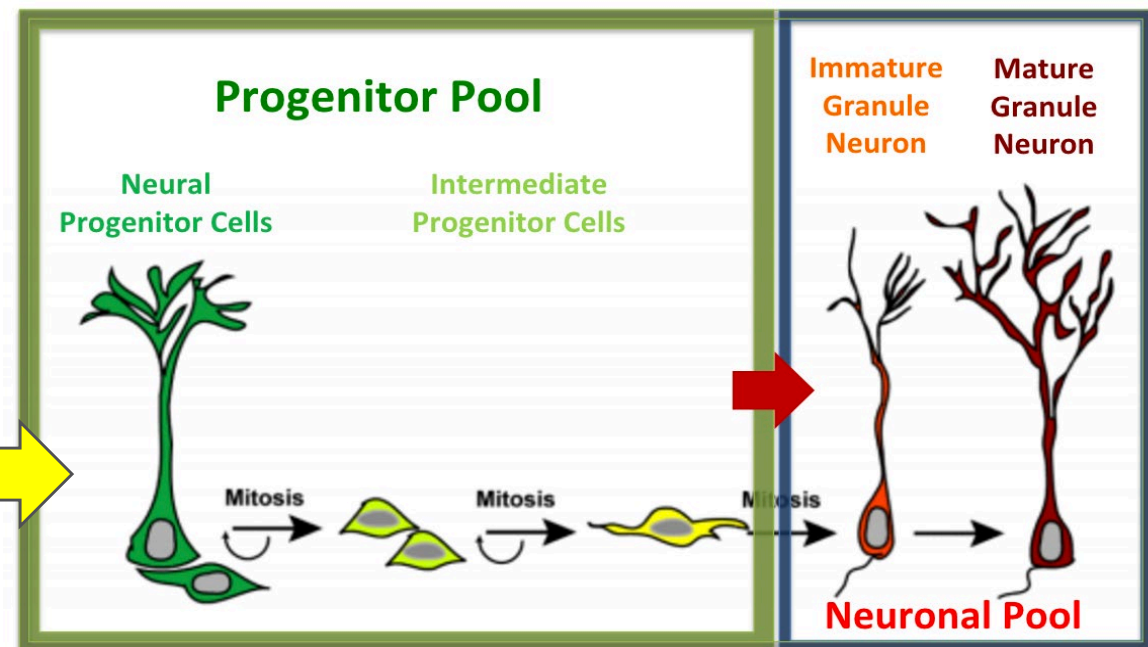


40X

DAPI

Region of Interest

Subgranular zone of dentate gyrus

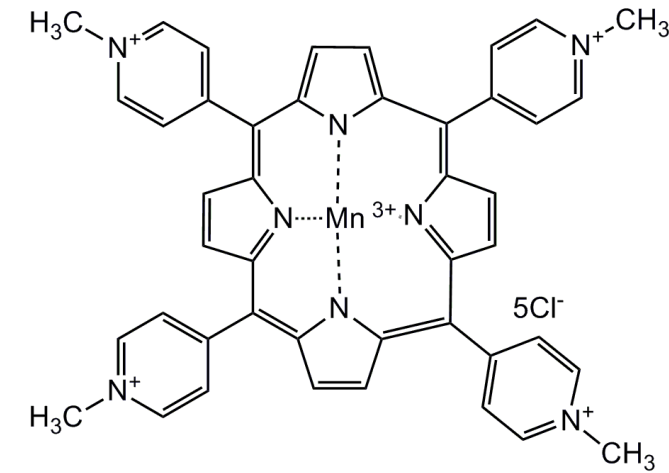


Ki67/Sox2
Tbr2
DCX

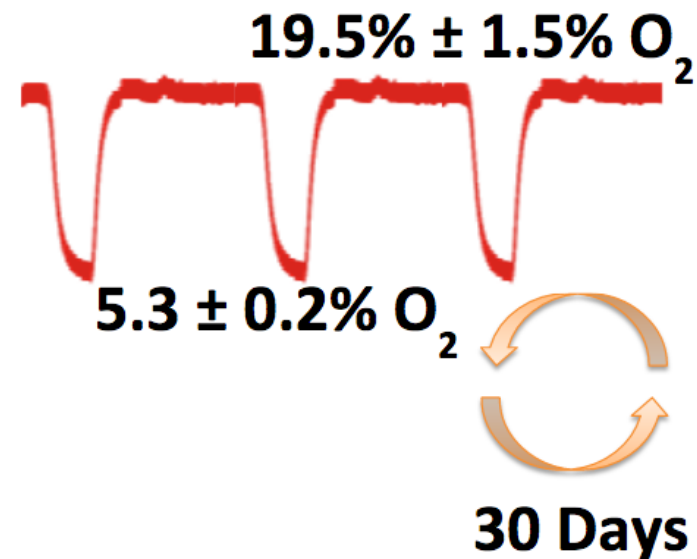


Experimental Design

- Treatment groups:
 - Control
 - CIH
 - Control + MnTmPyP
 - CIH + MnTmPyP
- CIH paradigm
 - 1 min 5% oxygen
 - 5 min 20% oxygen
 - Repeated 8 hr/day, for 30 days



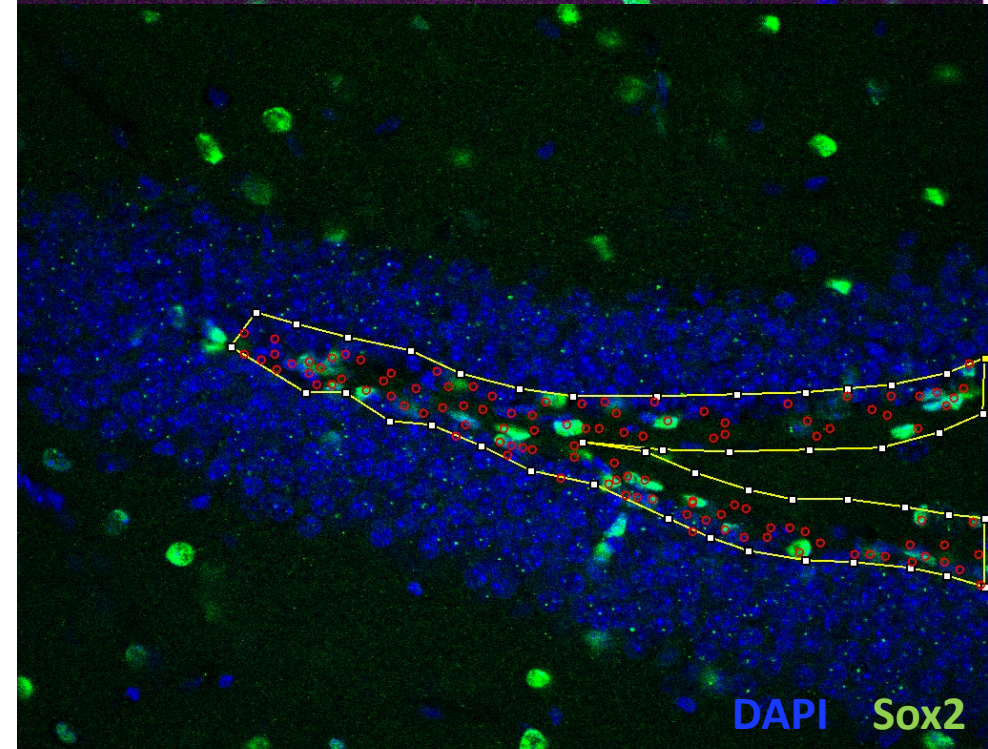
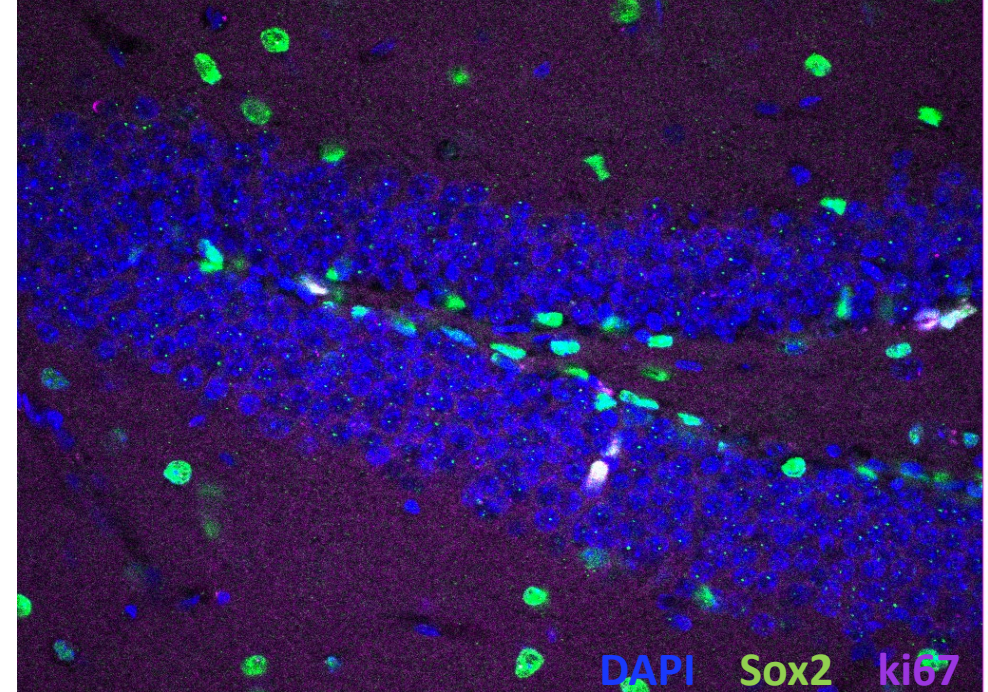
Manganese tetrakis porphyrin





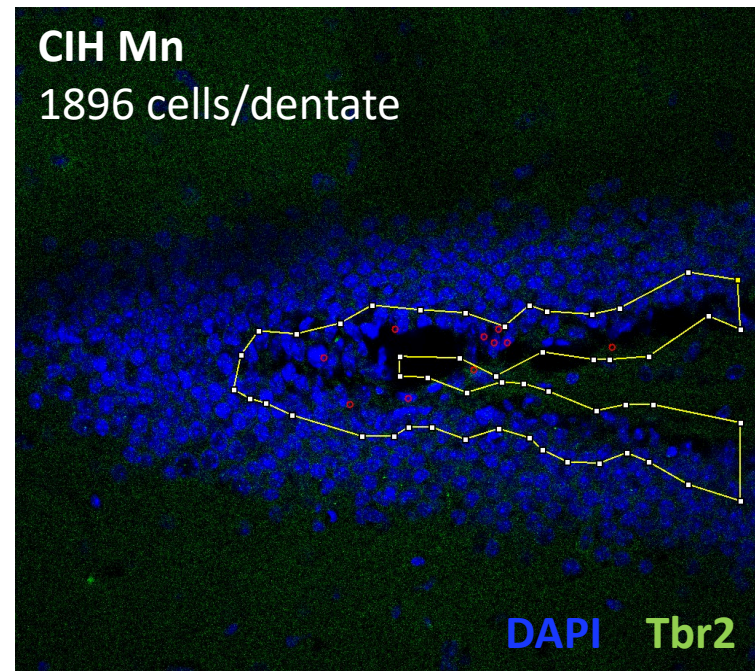
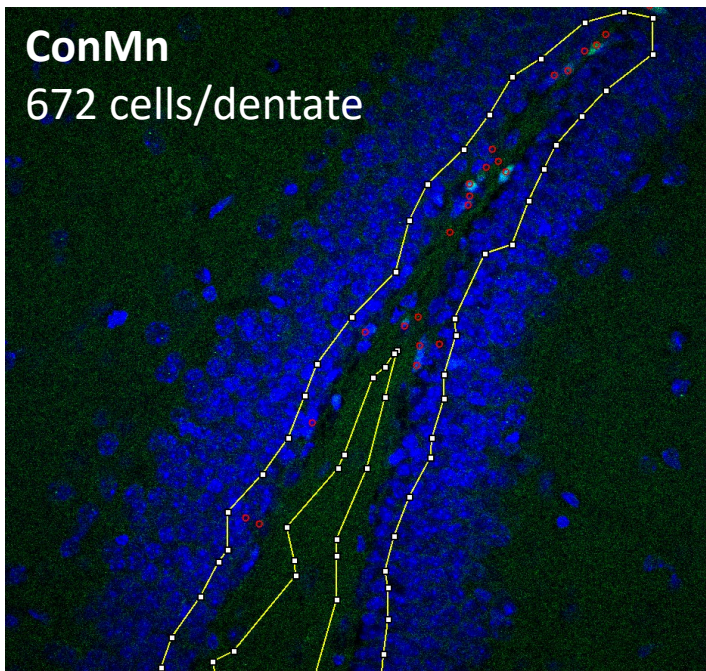
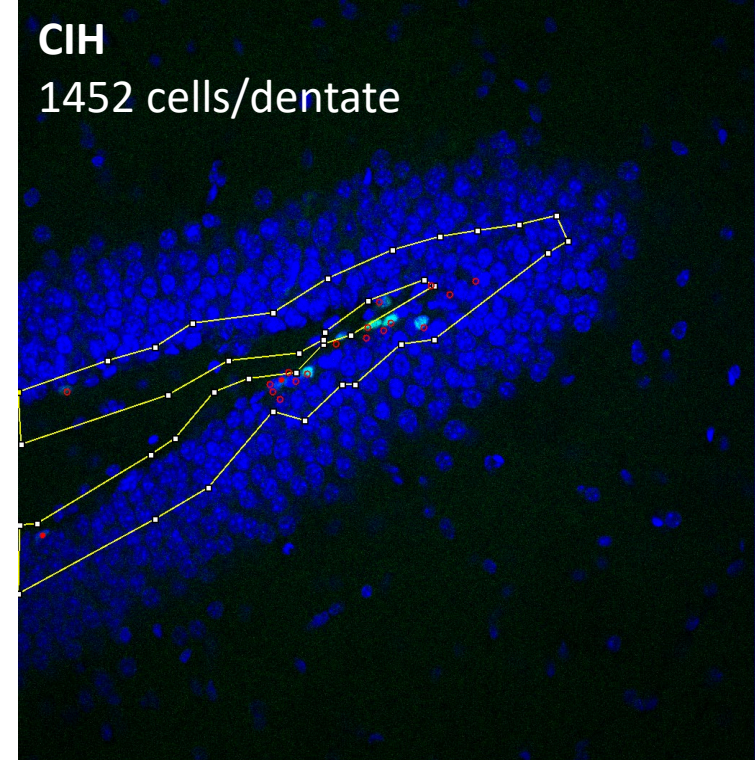
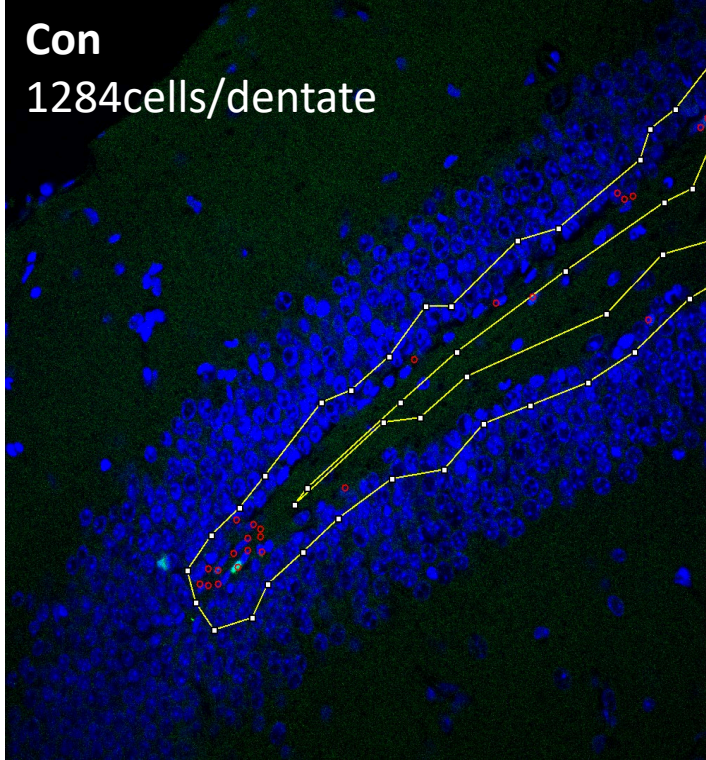
Method

- Tissue preparation
- Immunohistochemical staining
- Imaging
- Quantification





Preliminary Tbr2 Data





Thank You!

- Dr. and Mrs. Ellenbogen
- Jan-Marino “Nino” Ramirez
- Chelsea Pagan
- Jim Pridgeon & Dontay Smith
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UW Medicine



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