

# Shannon Leahy

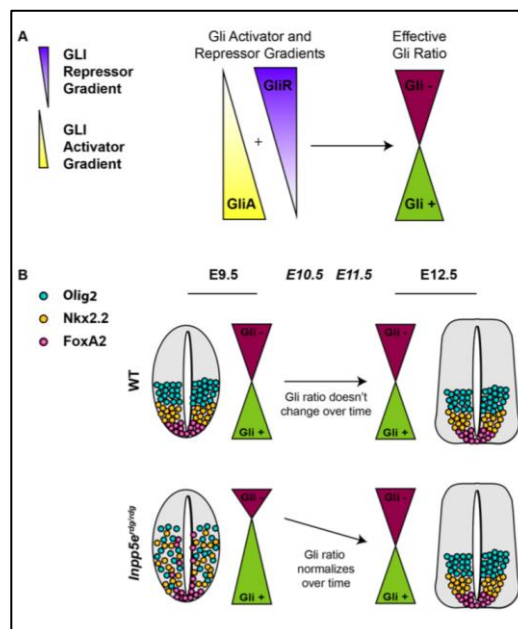
(Graduate Student-Broadie Lab)

## 'The ciliary phosphatidylinositol phosphatase Inpp5e plays positive and negative regulatory roles in Shh signaling'

Constable et al.

*Development*. February 2020, 147(3). pii: dev183301. doi: 10.1242/dev.183301.

Dose-dependent Sonic Hedgehog (Shh) signaling is essential for the control of ventral neuronal fates in the neural tube. The importance of cilia in Shh signaling has been increasingly recognized, and ciliary inositol polyphosphate-5-phosphatase (Inpp5e) was previously linked to Shh regulation. Earlier work concluded that Inpp5e plays an activating role, enabling specification of ventral-most neural fates. The new Constable et al. study shows, however, that Inpp5e can be both a positive and negative regulator. Although Inpp5e function is required for Shh response in cell culture, loss of Inpp5e also leads to an expansion of ventral neural cell fates in vivo. This study proposes that Inpp5e controls the level of Shh response over developmental time by attenuating signaling through controlling the timing of GliA/GliR gradient production.



Friday, March 6<sup>th</sup>, 2020  
3131 MRBIII, 4:00 PM