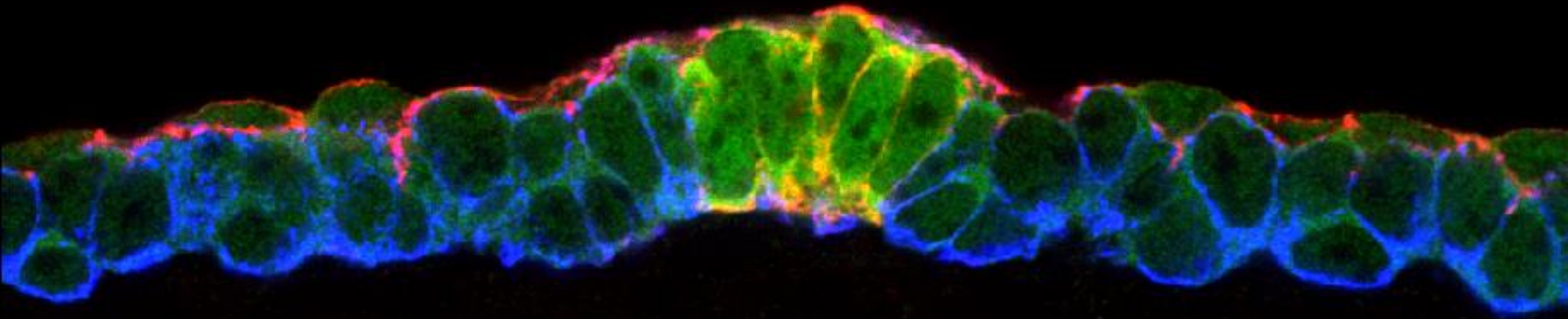


Defining the onset of taste receptor cell renewal

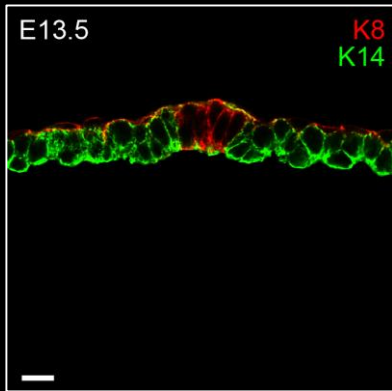


Erin J. Golden, PhD

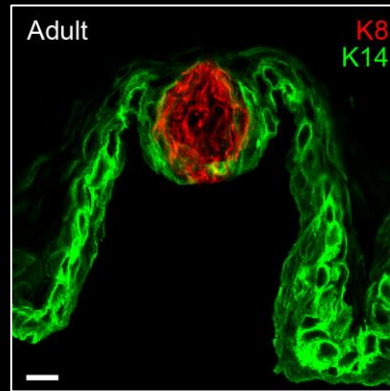
Postdoctoral Fellow | Barlow Lab

University of Colorado Anschutz Medical Campus

How do taste buds transition from an embryonic to adult state?



E. Golden

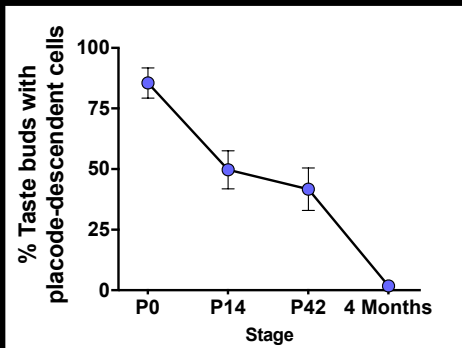


D. Gaillard

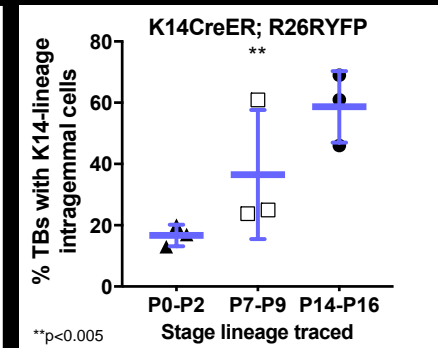
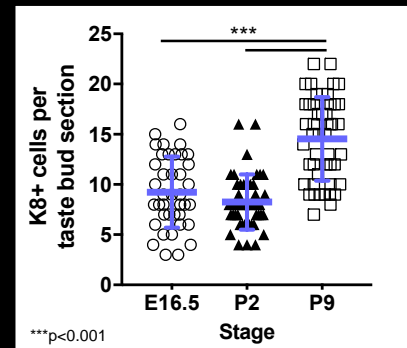
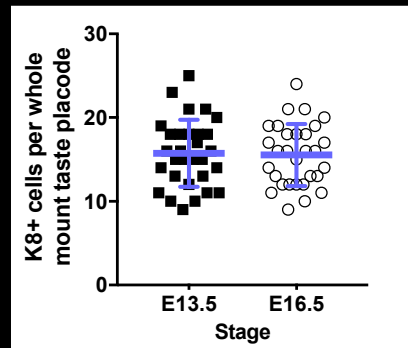
- Taste buds get bigger
- The lingual epithelium becomes more complex
- Taste buds undergo continuous cell turnover

Where does the basal progenitor cell pool develop from?

When do basal progenitors begin to contribute to taste buds?



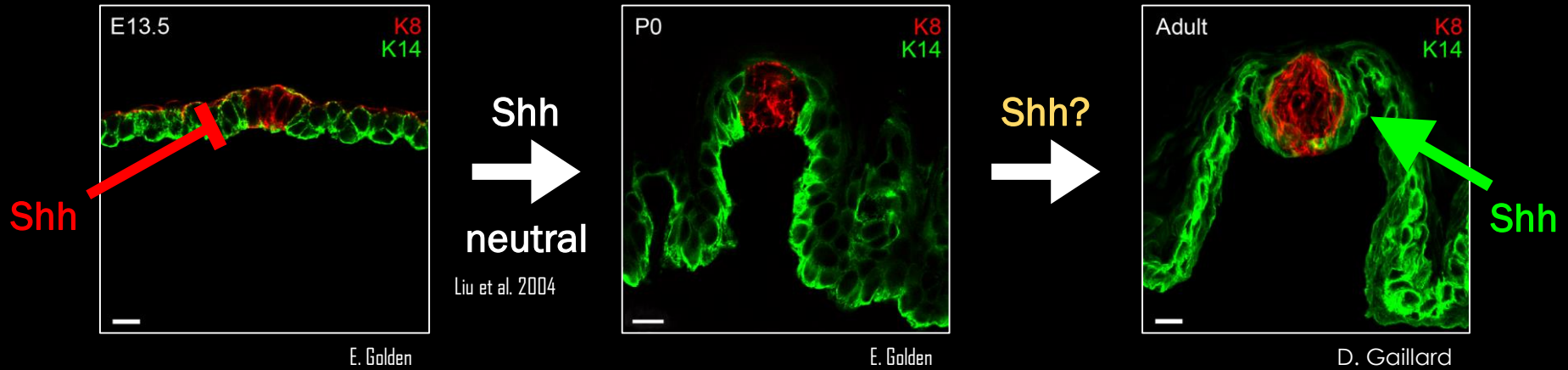
Modified from Thirumangalathu et al. 2009



Embryonic taste placode cells do not give rise to the basal progenitor population

New cells are not added to taste buds prior to birth
K14+ basal progenitor cells begin to contribute to taste buds at birth

What pathways regulate progenitor cell development?



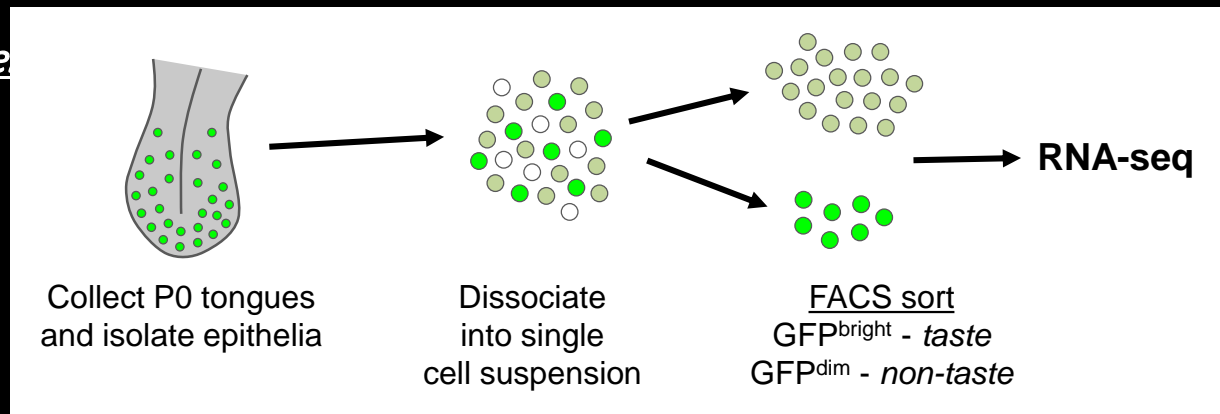
Hall et al. 2003
Mistretta et al. 2003
Liu et al. 2004

Iwatsuki et al. 2007
El Shahawy et al. 2017

Castillo et al. 2014
Castillo-Azofeifa et al. 2017

Hypothesis: Critical shift in Shh function to “pro-taste” coincides with the onset of K14+ progenitor cell contribution to taste buds

Experiment



Thank You!

Barlow Lab

Linda Barlow

Dany Gaillard

Jennifer Scott

Lauren Shechtman

Ben Tiano

Kelly Zaccone

David Castillo-Azofeifa

Tim Fellin

Lauren Gross

