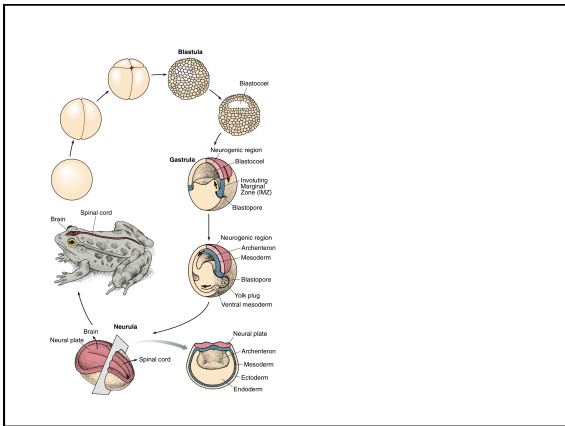
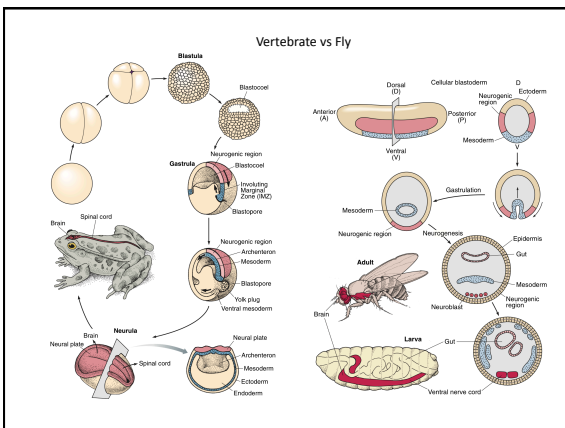
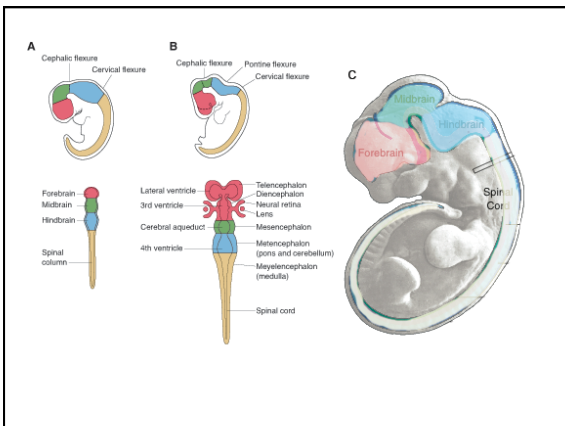
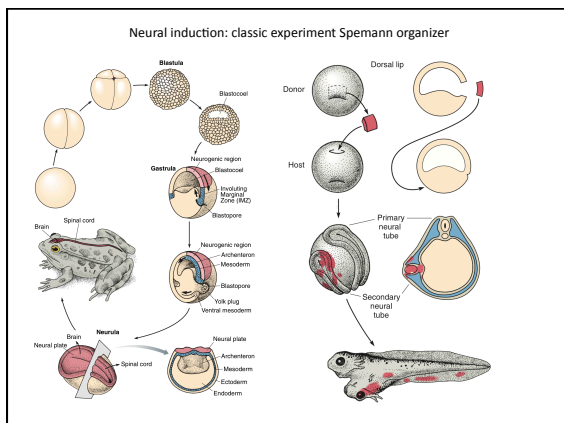
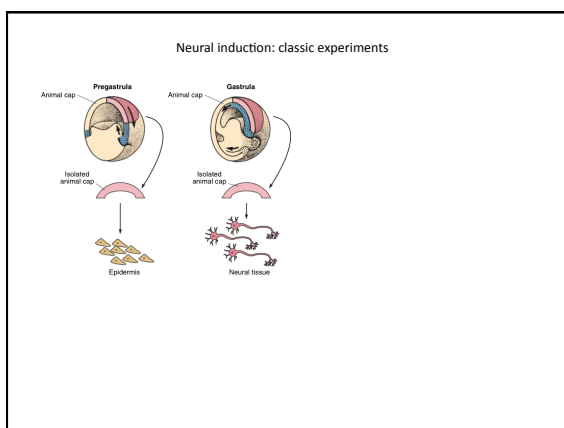


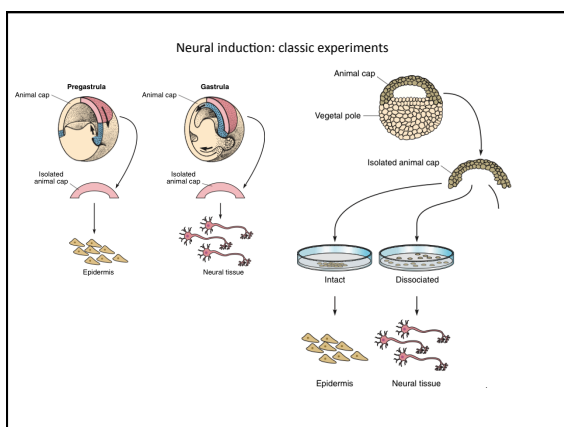


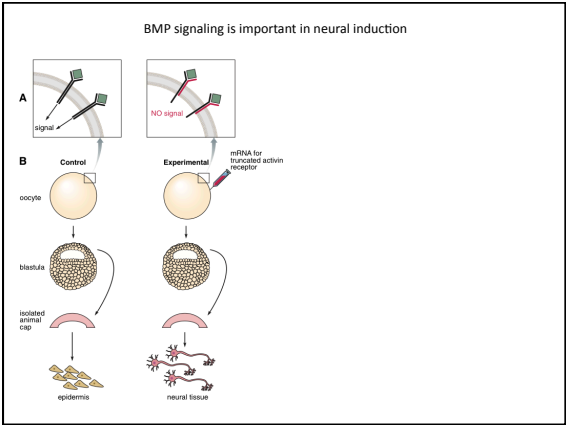


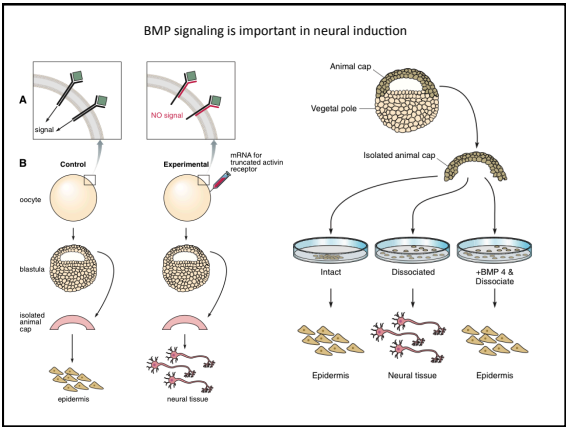


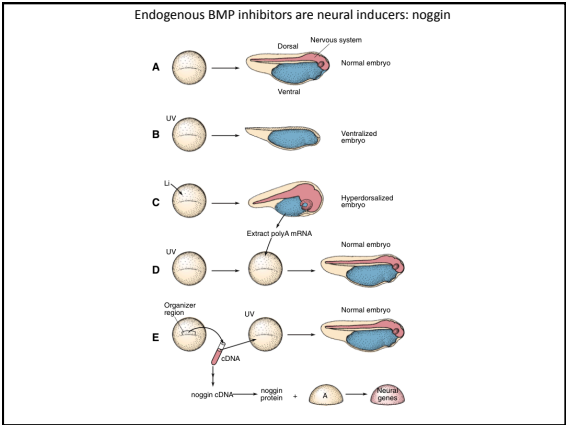


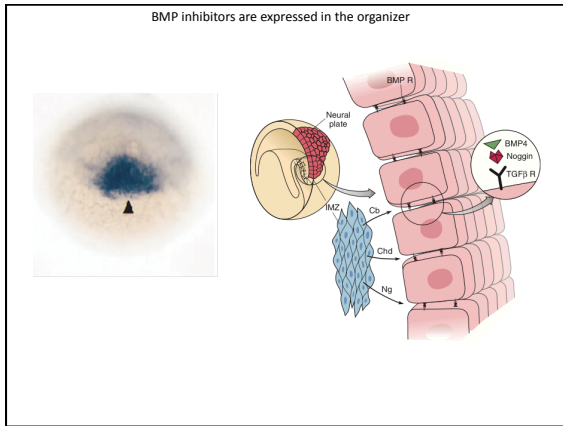


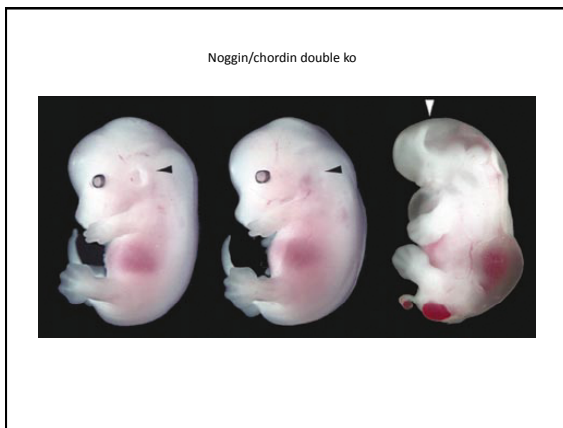


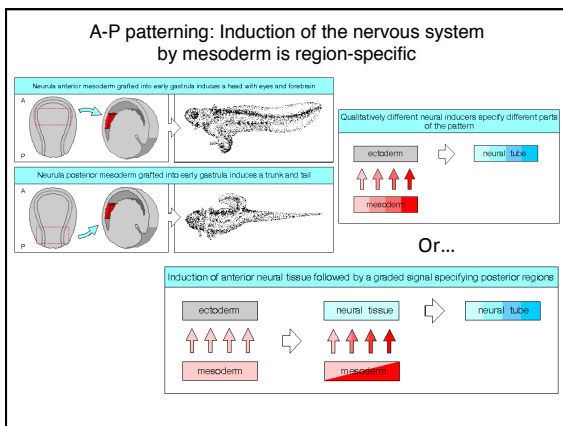


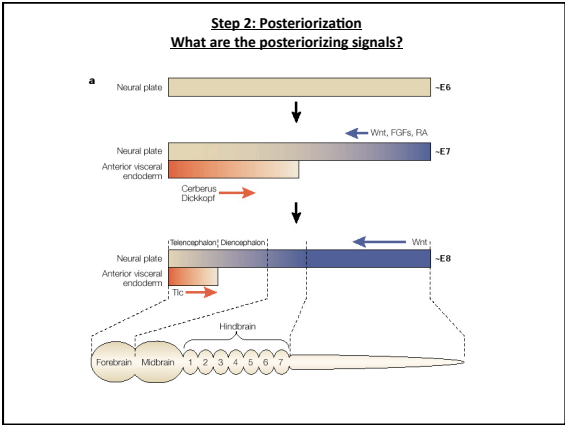


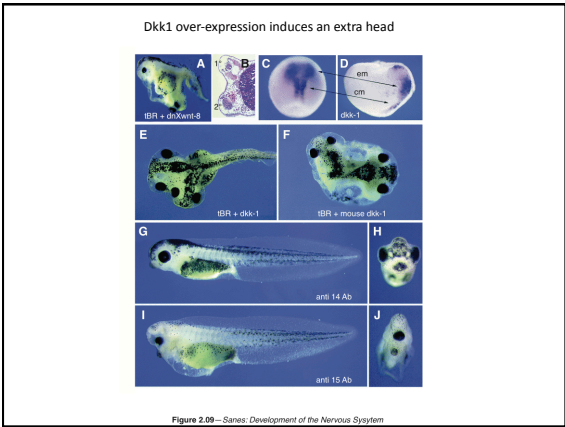


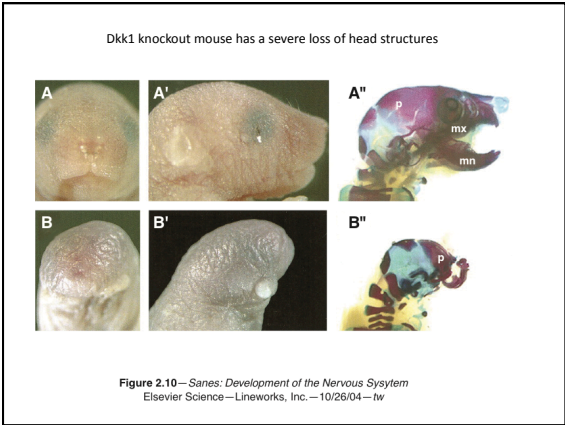


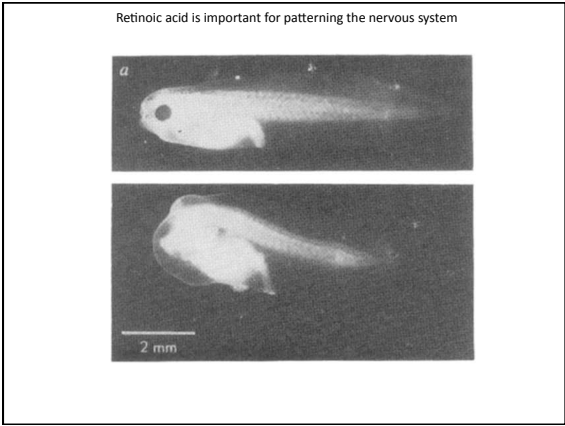


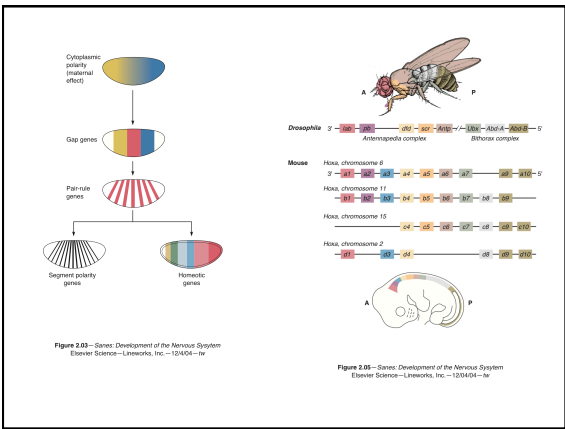


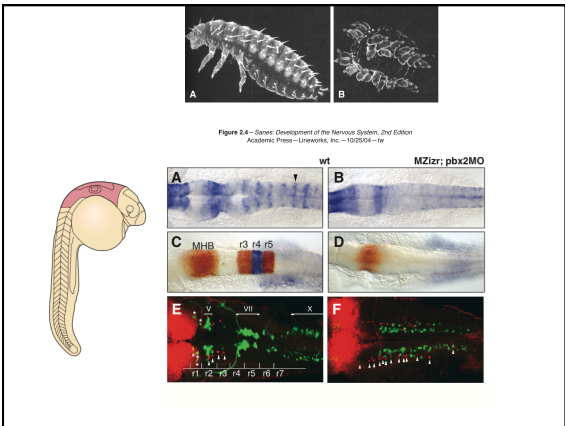


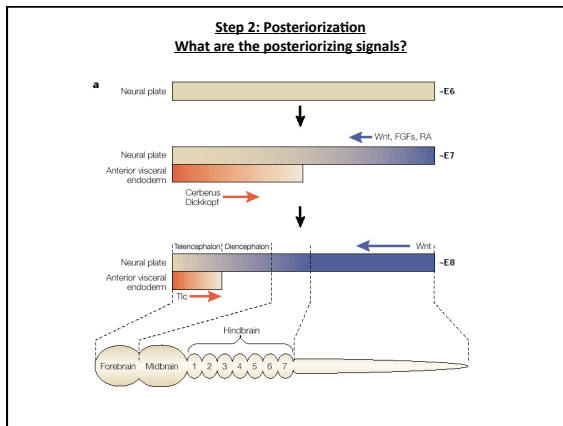


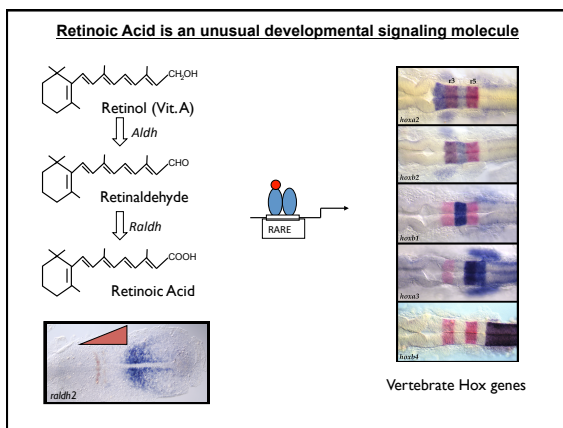


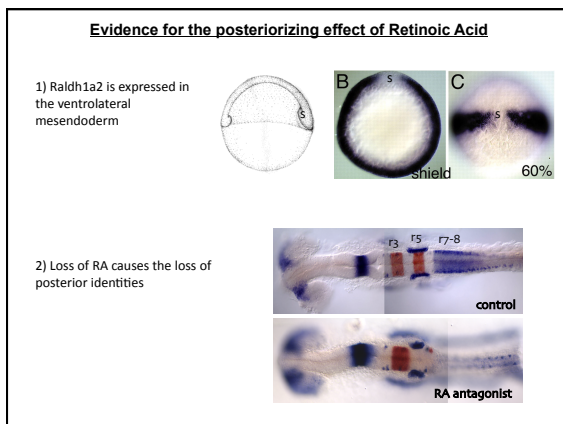


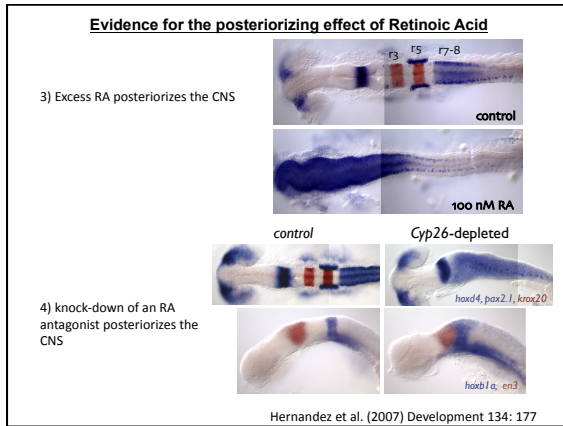


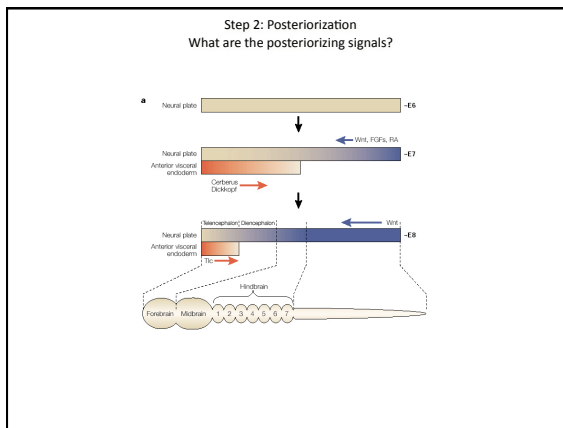


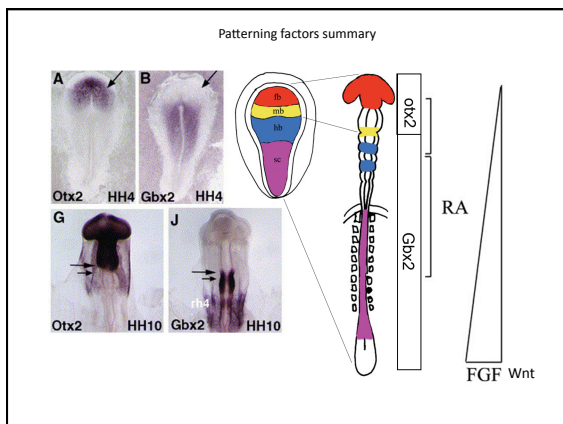


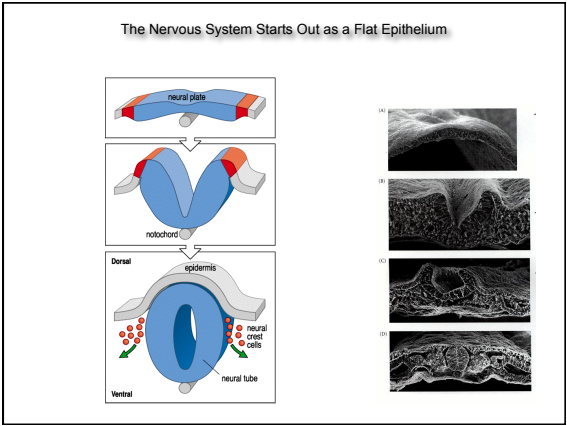


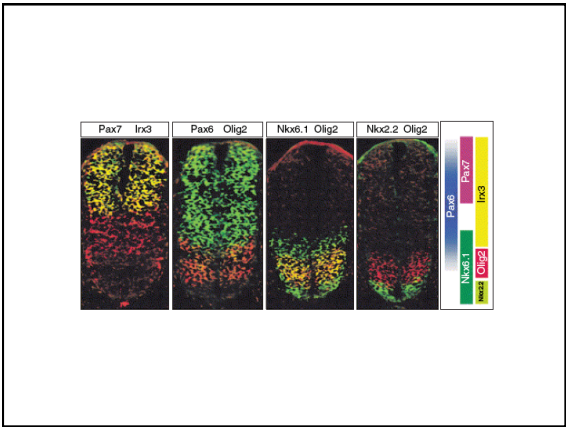


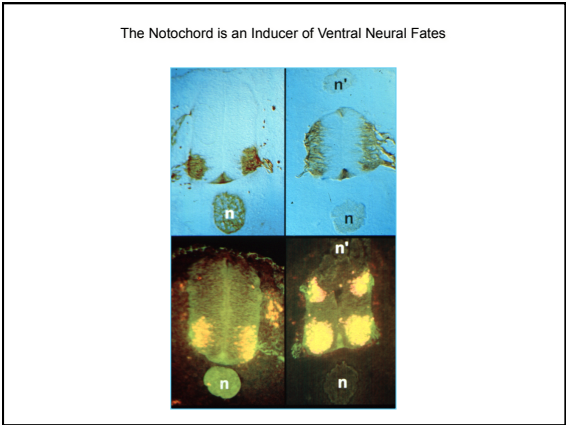


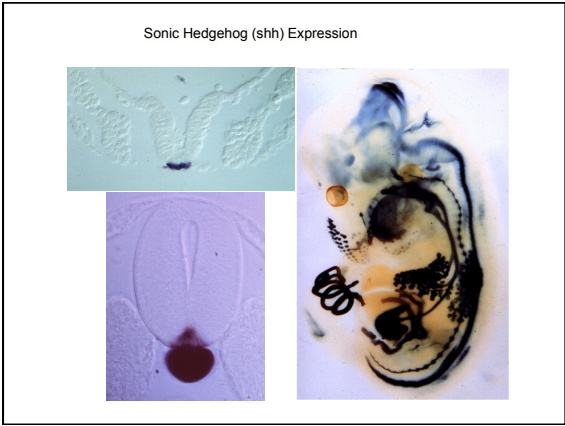


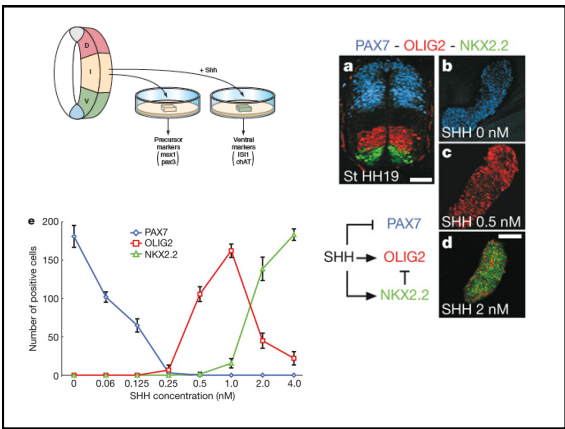


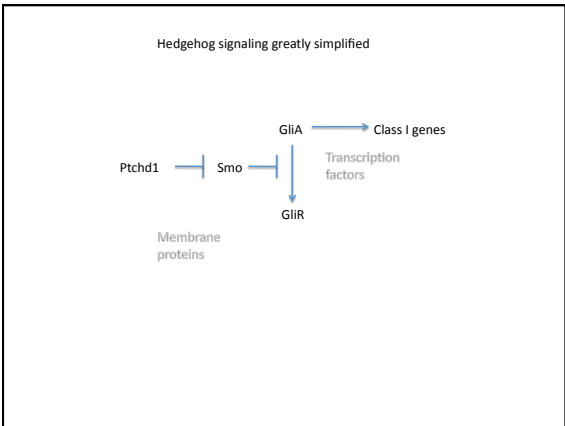


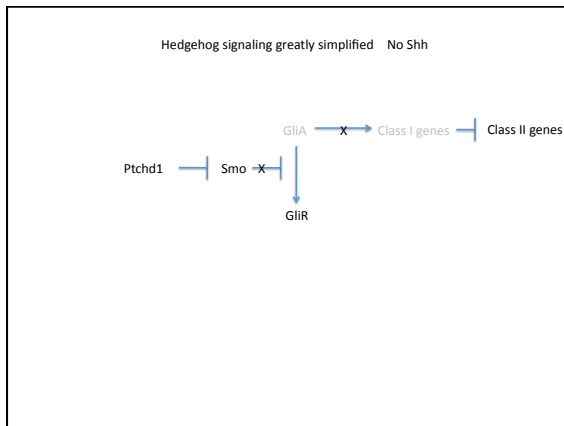


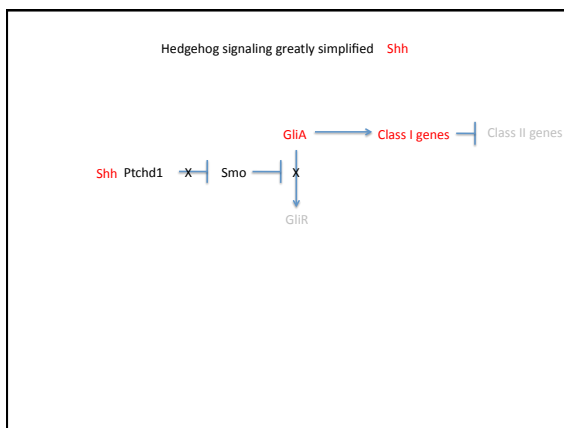








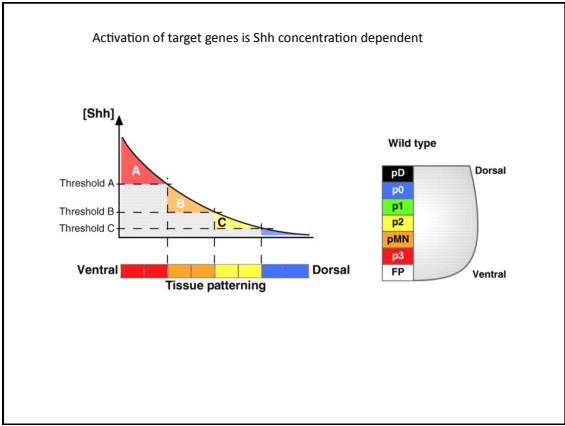


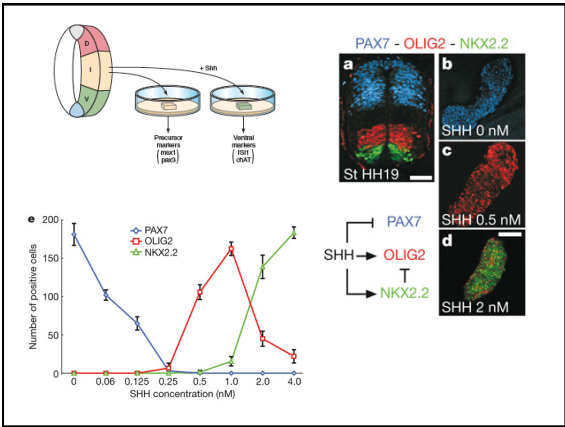


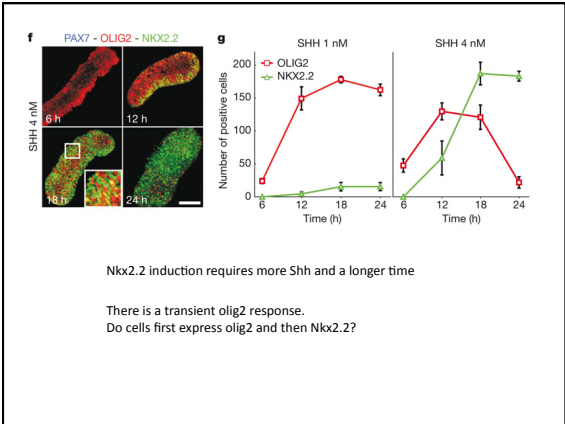
Gli transcription factors in Shh signaling

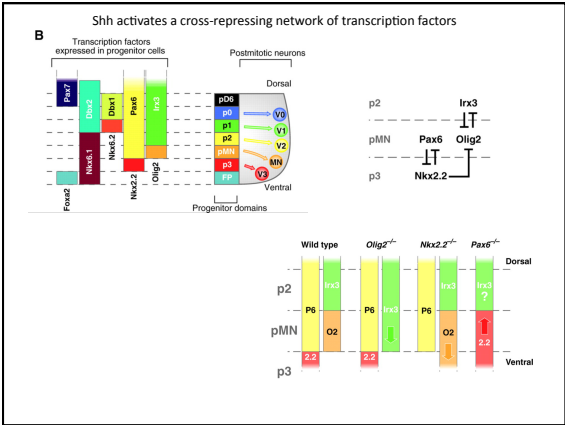
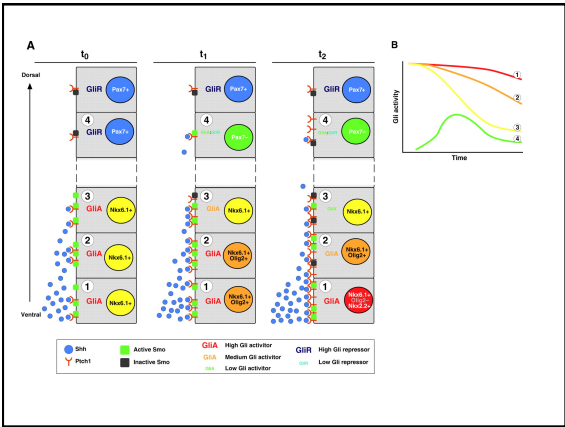
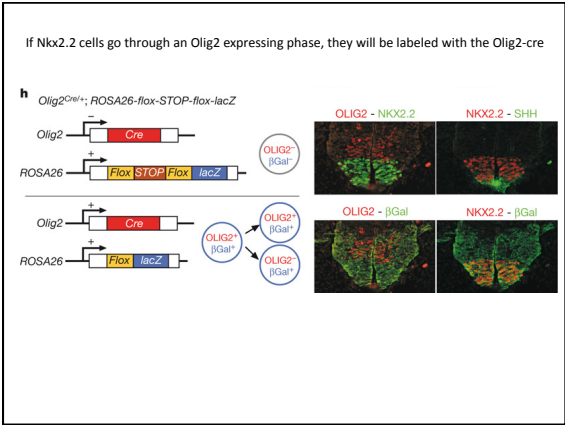
- Gli2 is an activator and is degraded without Shh
- Gli3 is proteolytically processed into a repressor without Shh, but with Shh turns into an activator
- Gli1 (also an activator) is regulated by Gli2/3, and so is up-regulated by Shh signaling.
- Together the Gli proteins become activators with Shh.

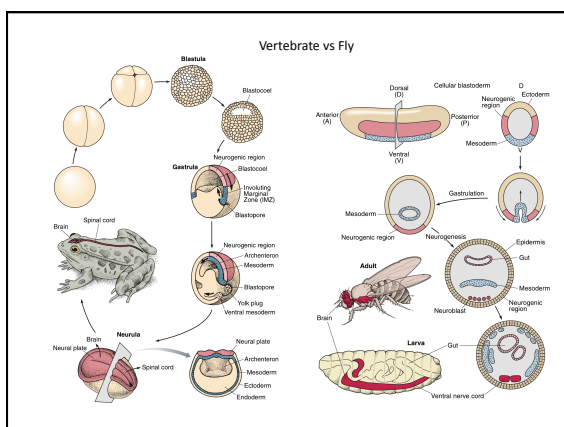
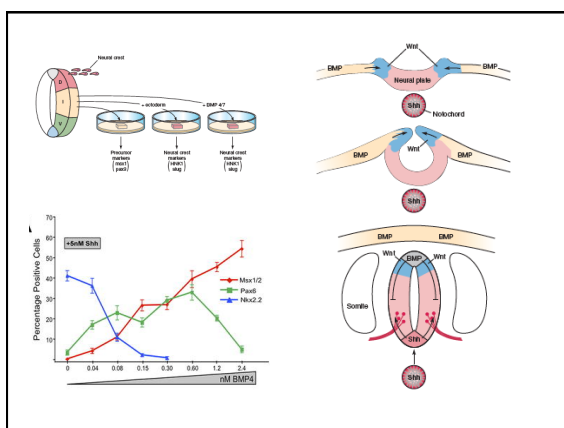
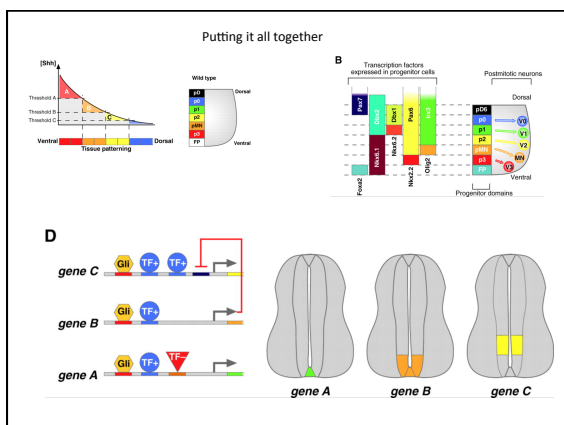


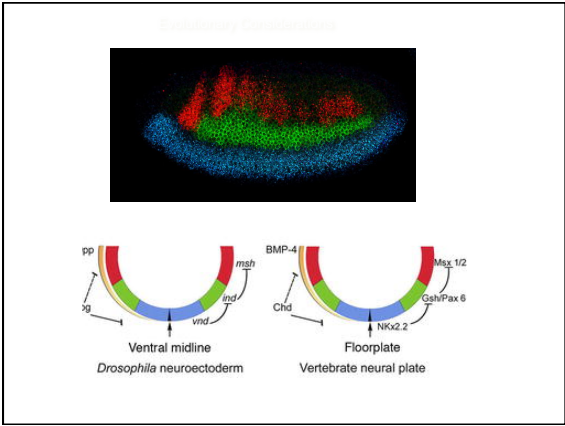


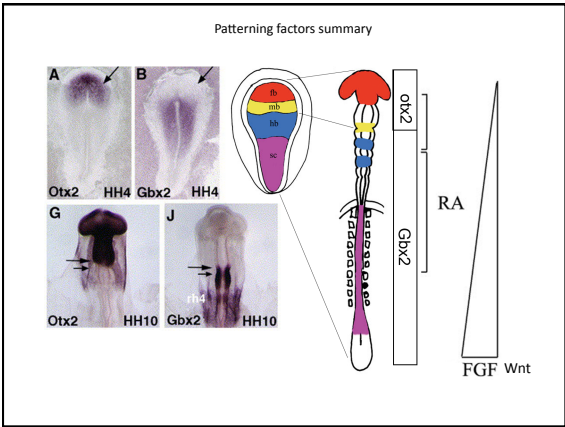


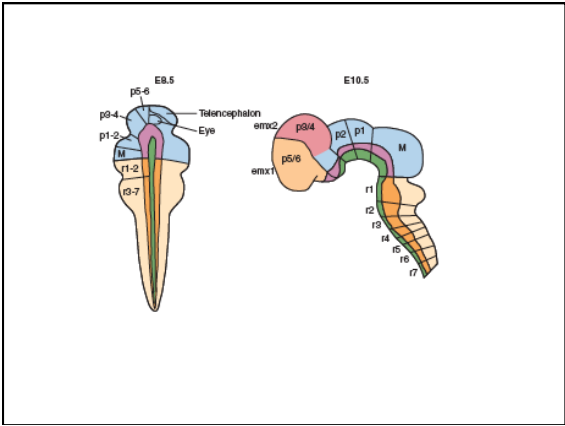


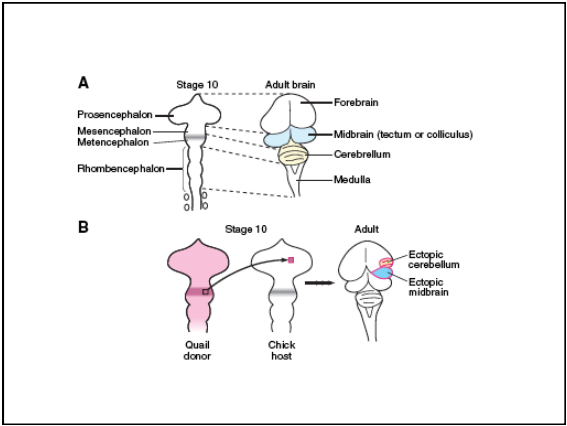


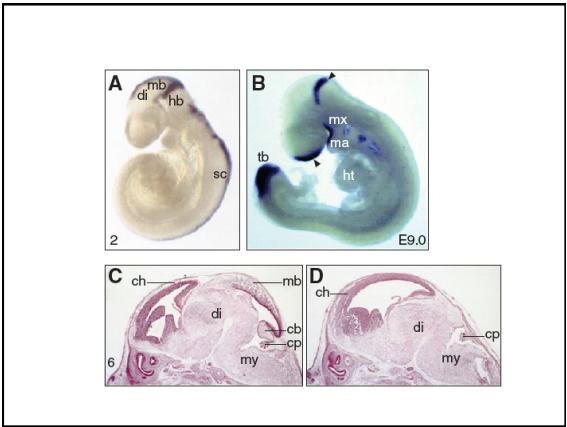


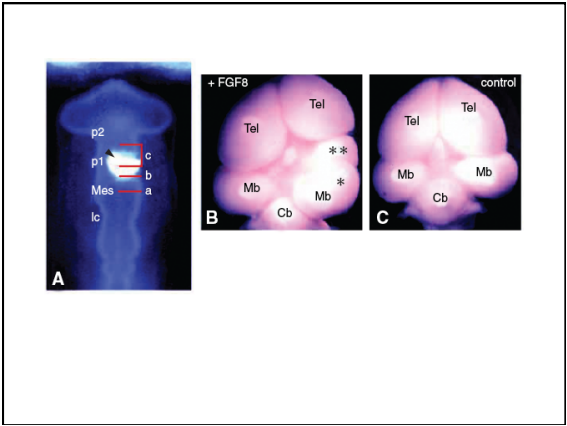












Some take-home messages

- BMP antagonists are the neural inducers
- Wnt, FGF and RA are the primary anterior-posterior patterning factors
- Shh/Bmp pattern the dorsal ventral axis
- Gradients of signals are translated to domains of differential gene expression
- Many of the factors that pattern the nervous system are derived from extra-neural sources
