

Cliff Tabin

ZPA - of limb bud

Hedgehog - signalling in *D. melanogaster*
- look for homologs in vertebrates

Hedgehog family

- cloned many in chick, mouse

Sonic hedgehog

- expressed in many regions
- including limb bud ZPA
- correlated w/ ZPA activity
- transfecting w/ sonic expressing virus leads to same phenotype as ZPA ~~transfection~~ transplant

Retinoic Acid

- can phenocopy transplantations
- leads to sonic induction
- induces Hox B8 which also can lead to similar transformation

Activity of Sonic?

- ① long-range morphogen?
- ② part of a signalling-cascade?

D. melanog

- hedgehog induces DPP
(homologs include BMP2)

- tested whether sonic induces BMP2
by using viral vector

FGF4 involved in AER interaction
w/ ZPA

Feedback loop ... if remove AER
Sonic expression disappears

