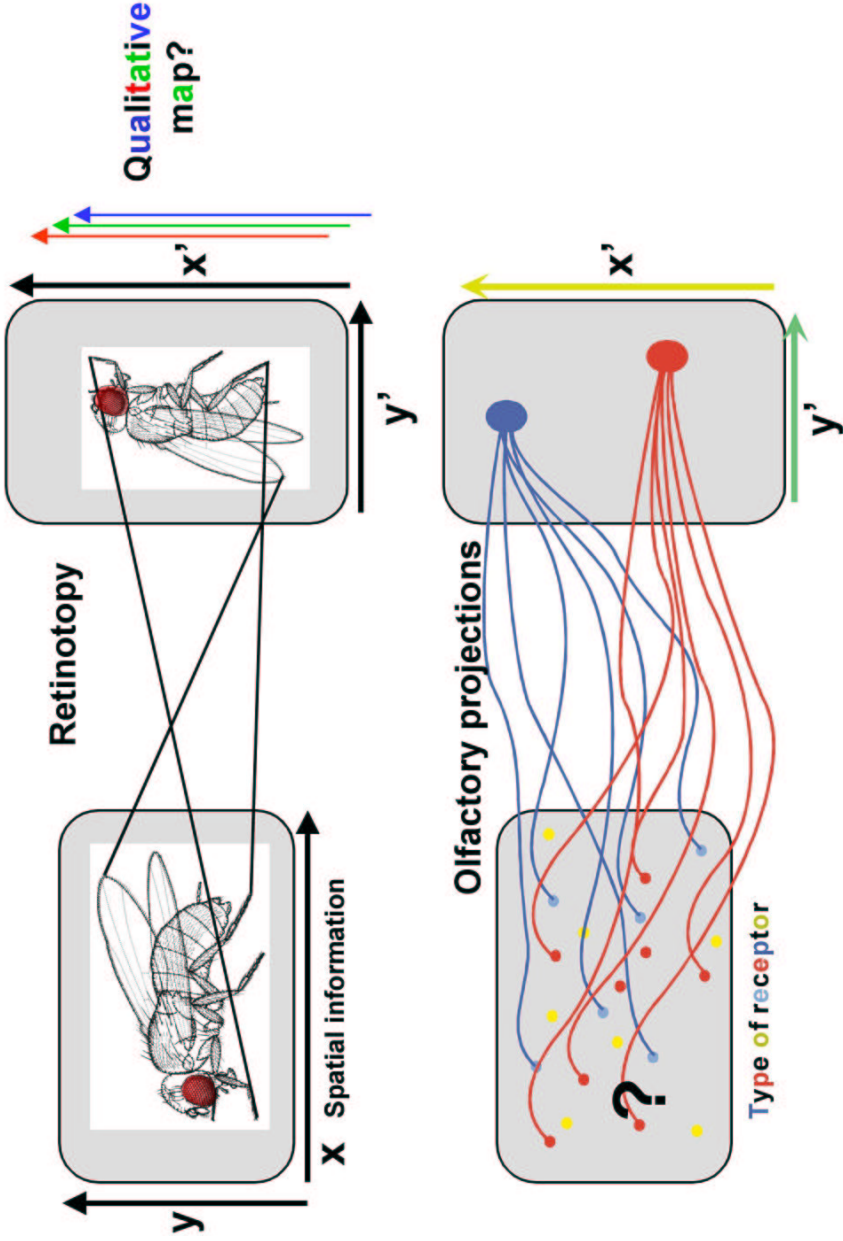
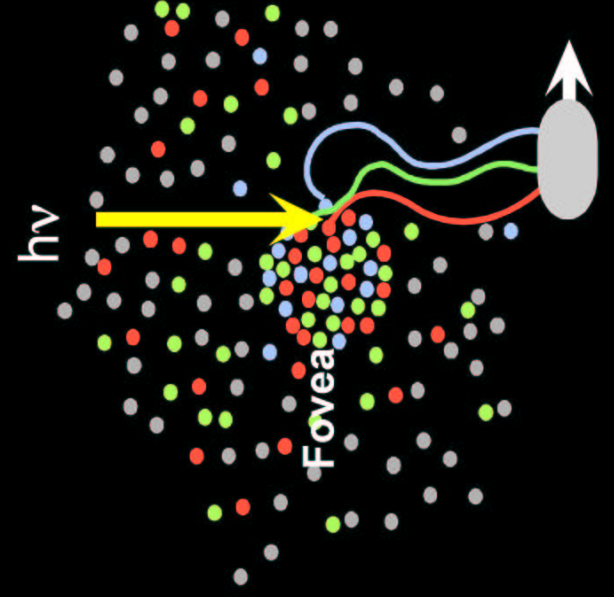




**Topographic maps**

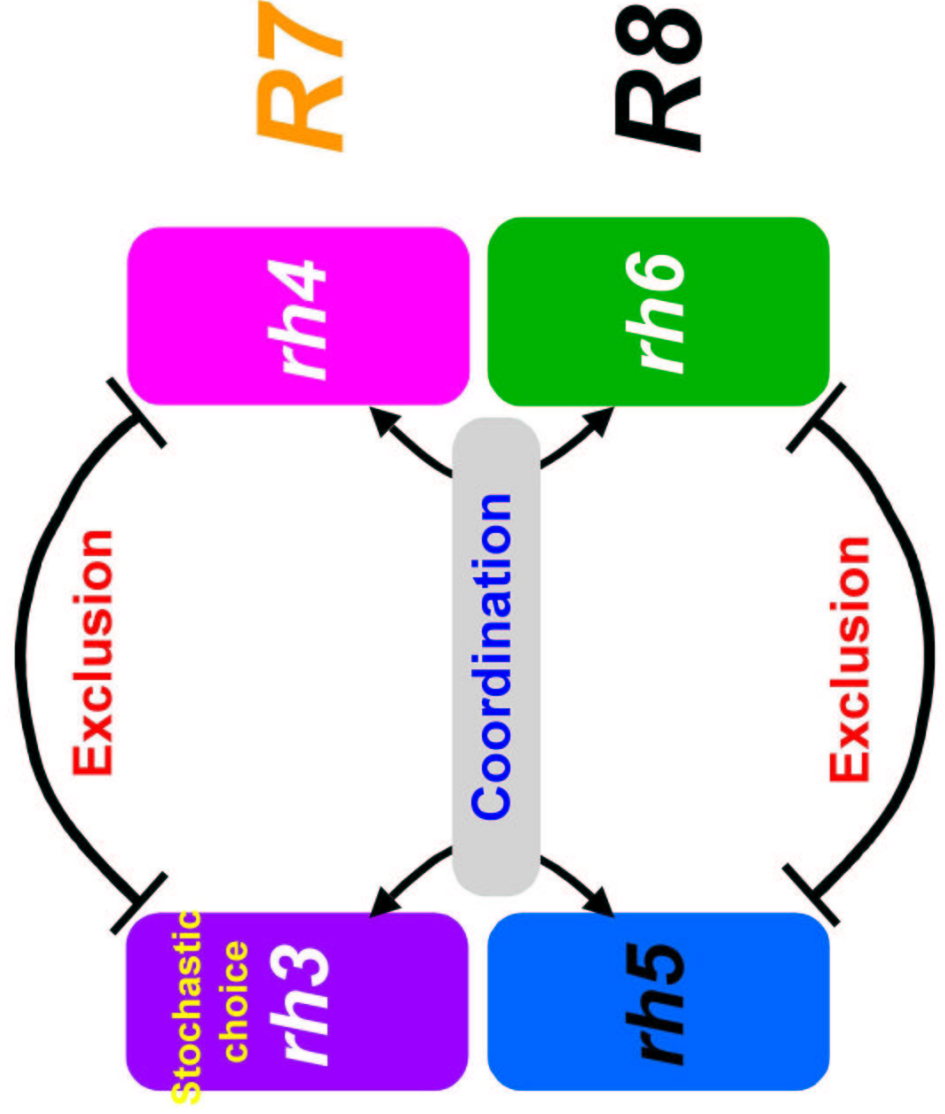
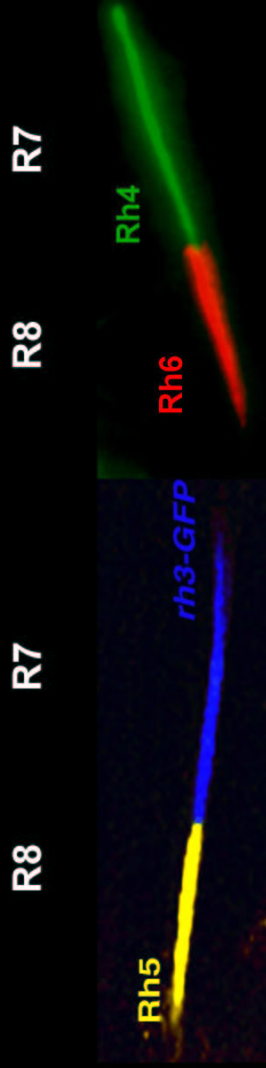


**Vertebrate retina**



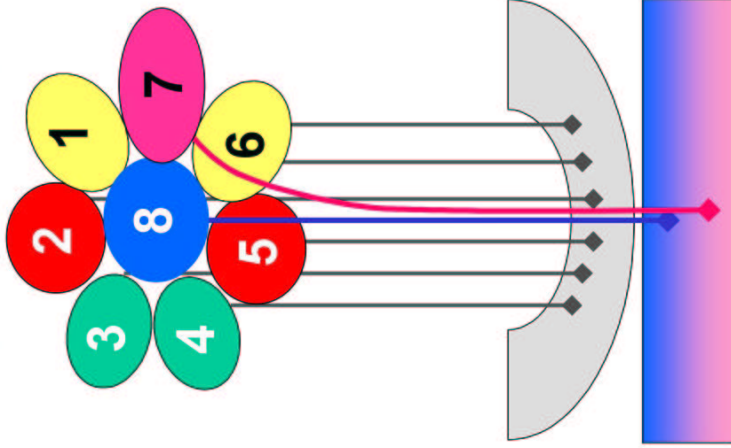


# Coordination of R7/R8 rhodopsins

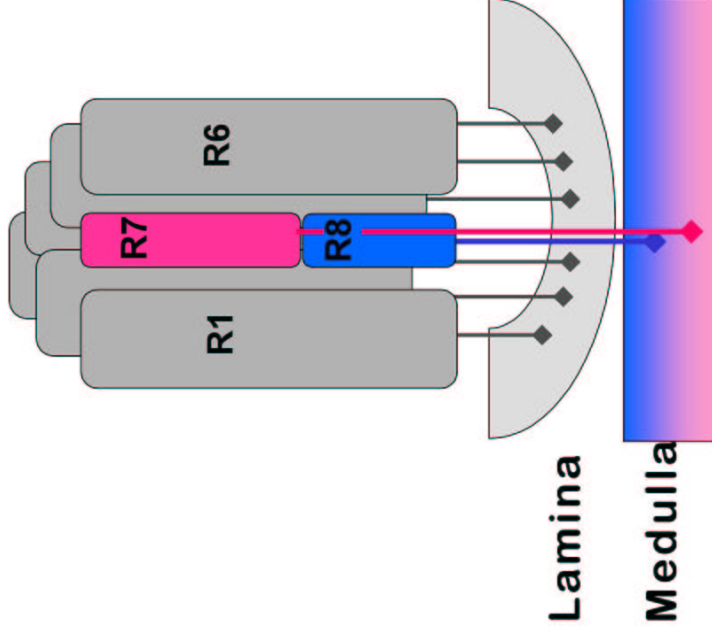


## 2 steps for Photoreceptor differentiation

**Specification**  
(Imaginal disc)

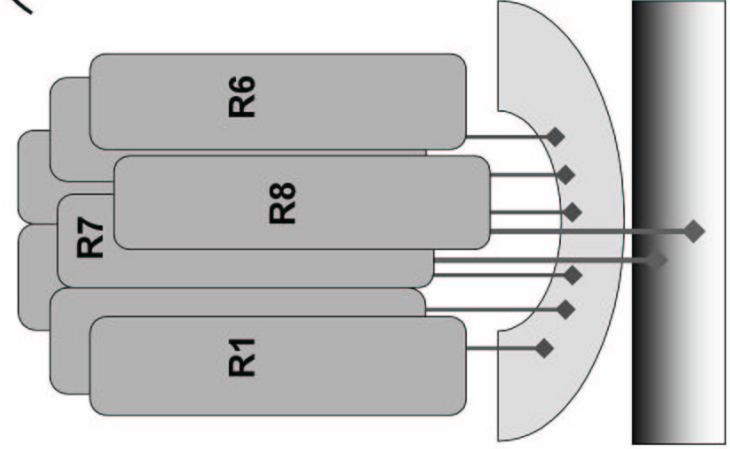


**Differentiation**  
(Pupation)



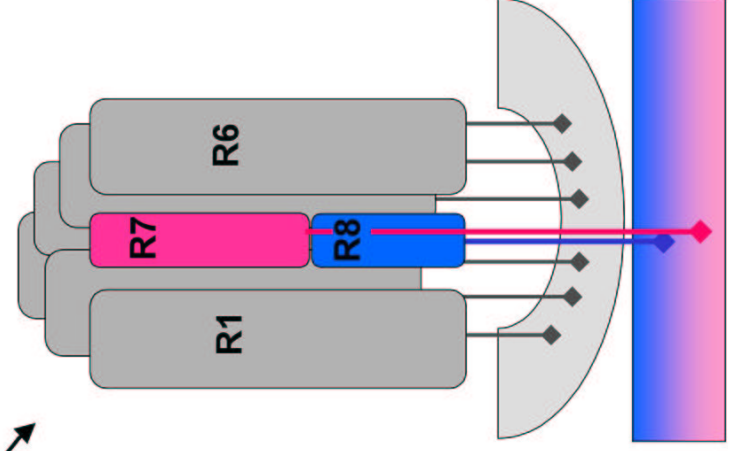
## Inner vs. outer PR differentiation

**Ground state**

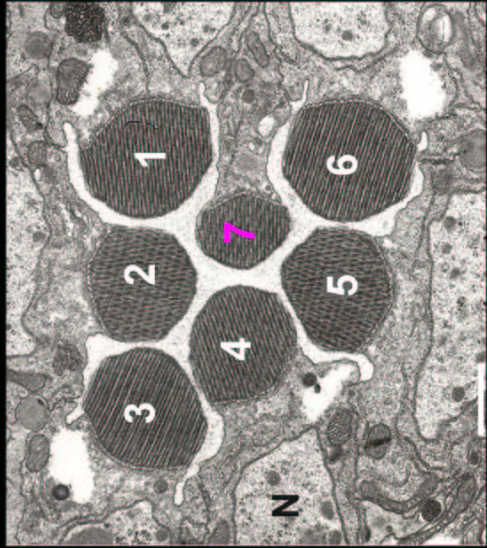


**Spalt**

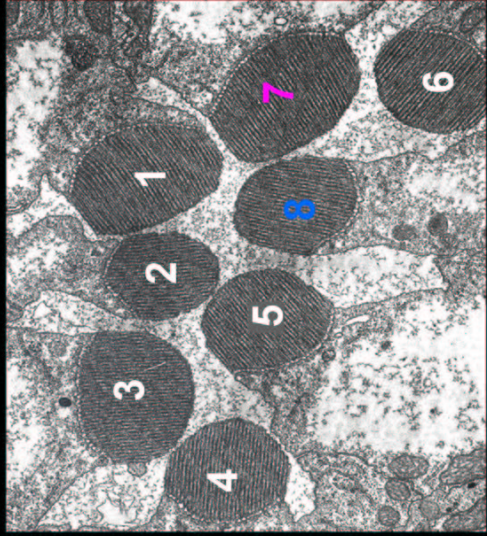
**Differentiation**  
(Pupation)



**Spalt transforms outer into inner PRs**

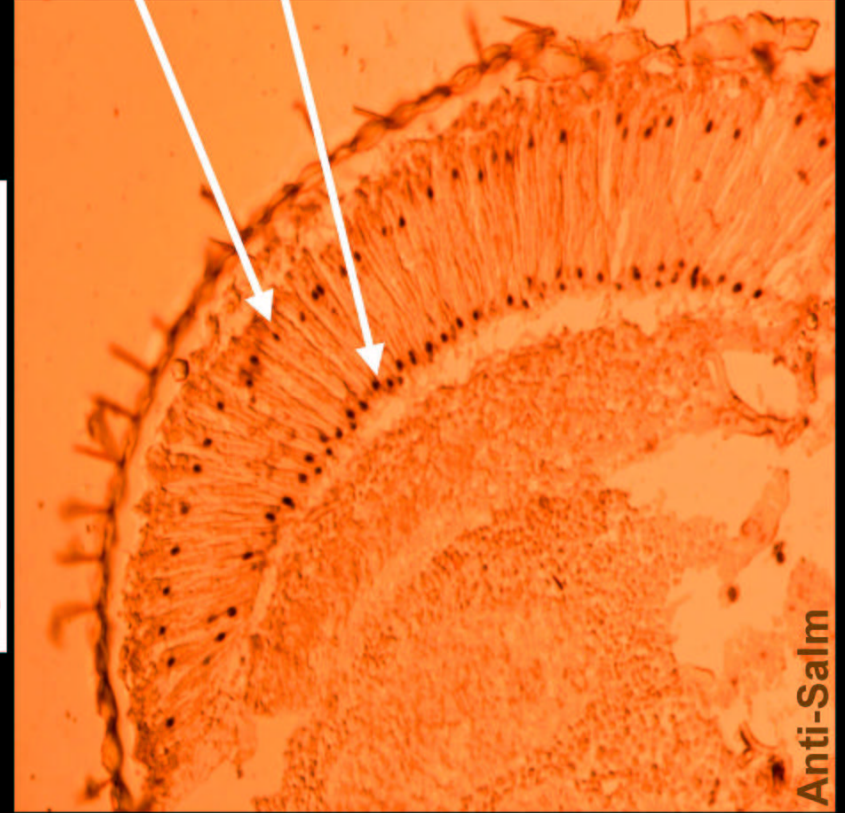


*wt*



*sal*

**spalt expression**



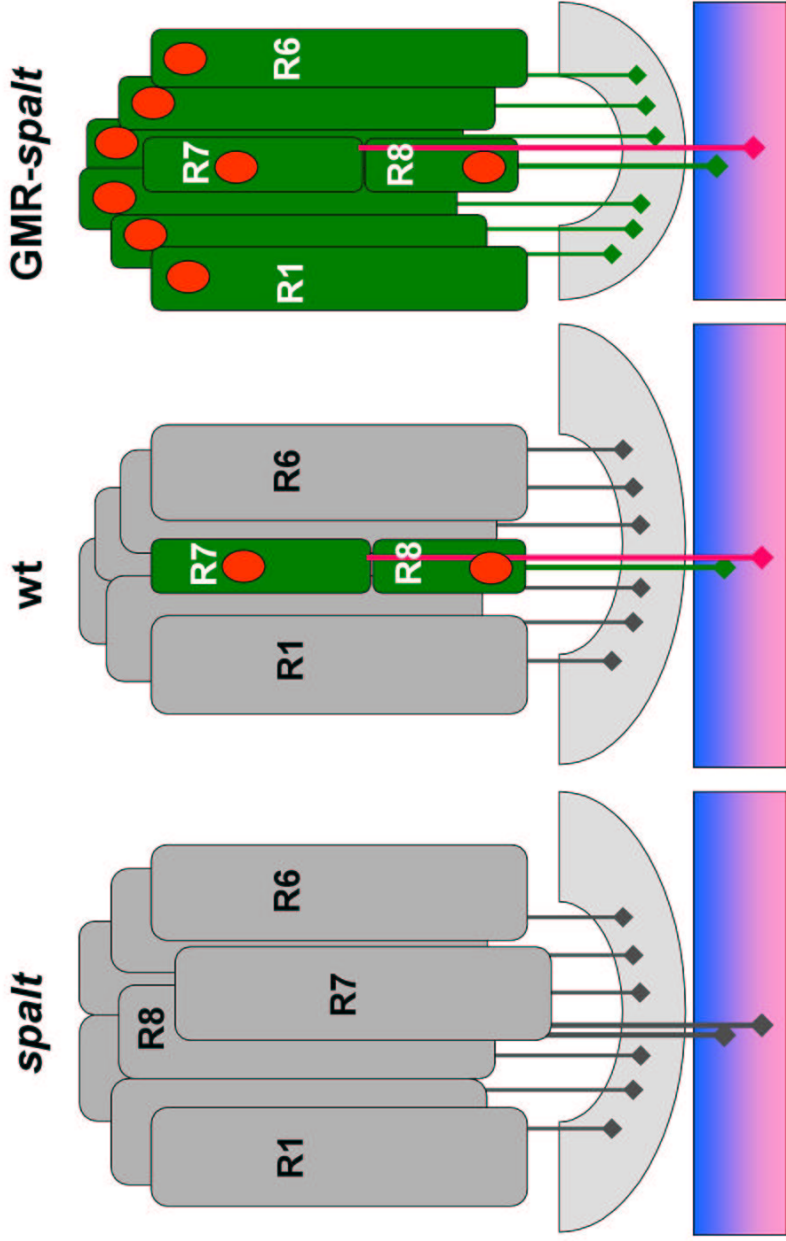
R7

R8

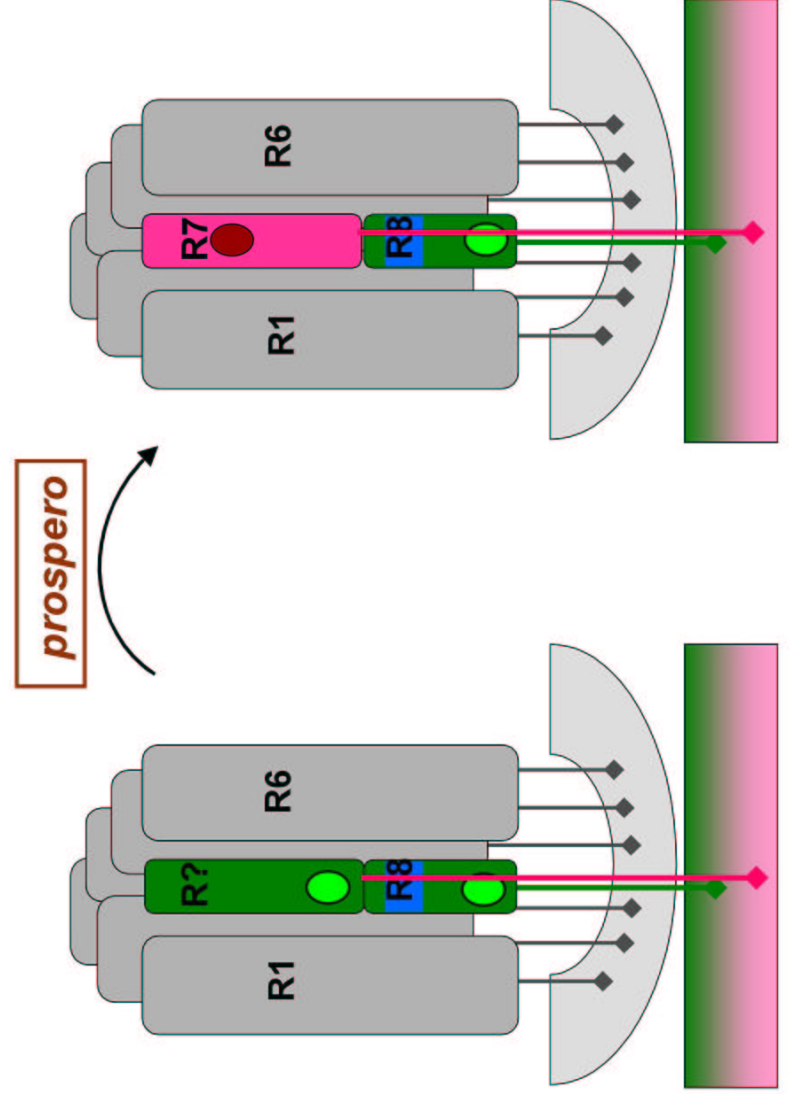
Anti-Salm

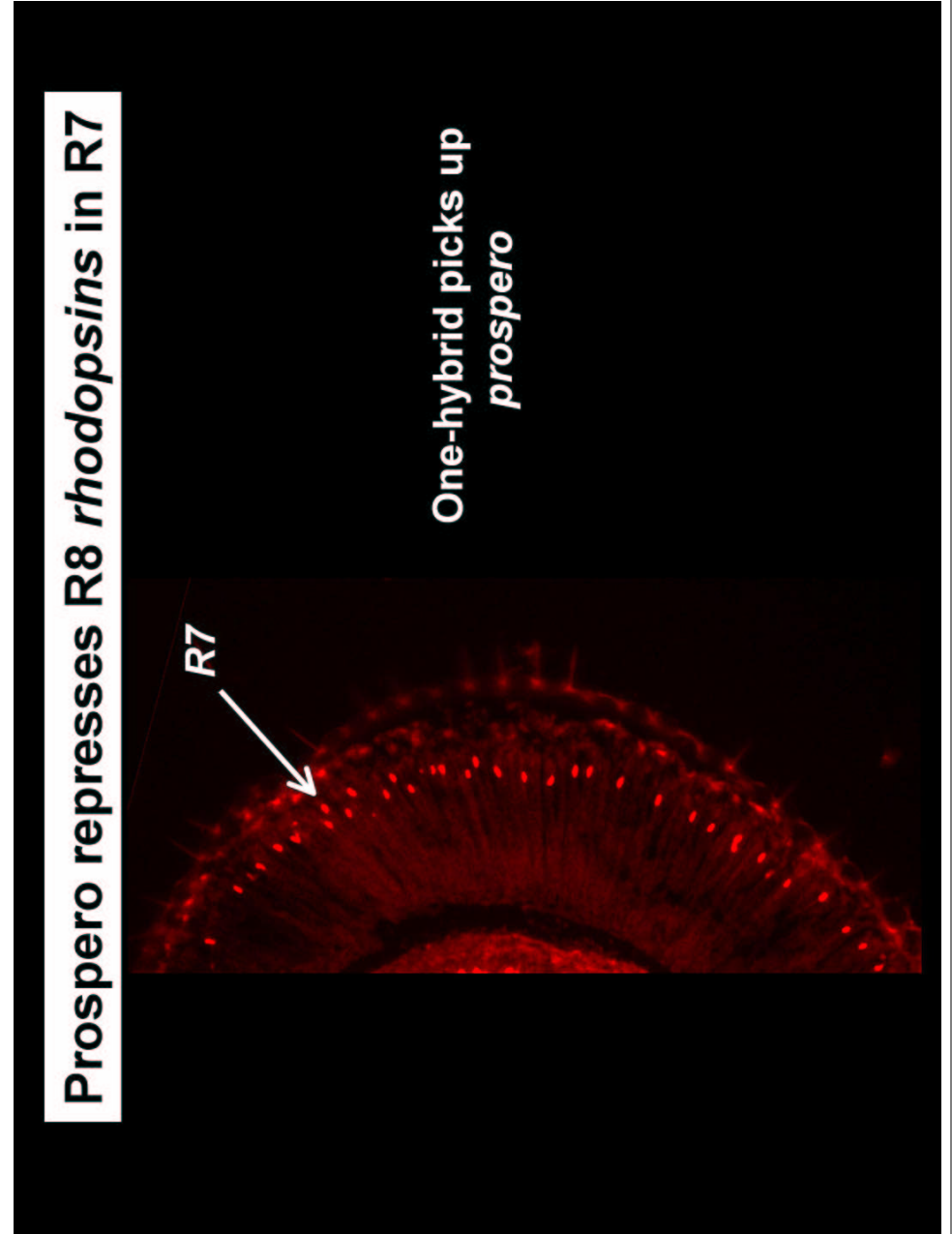
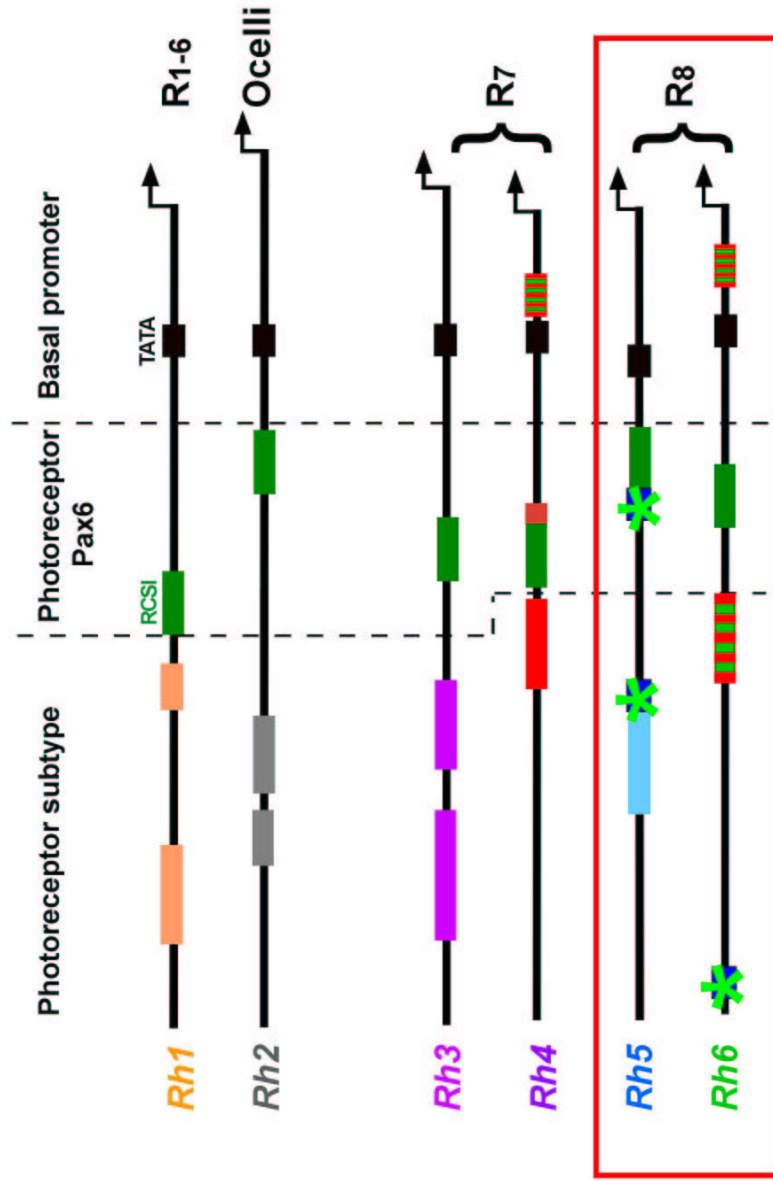


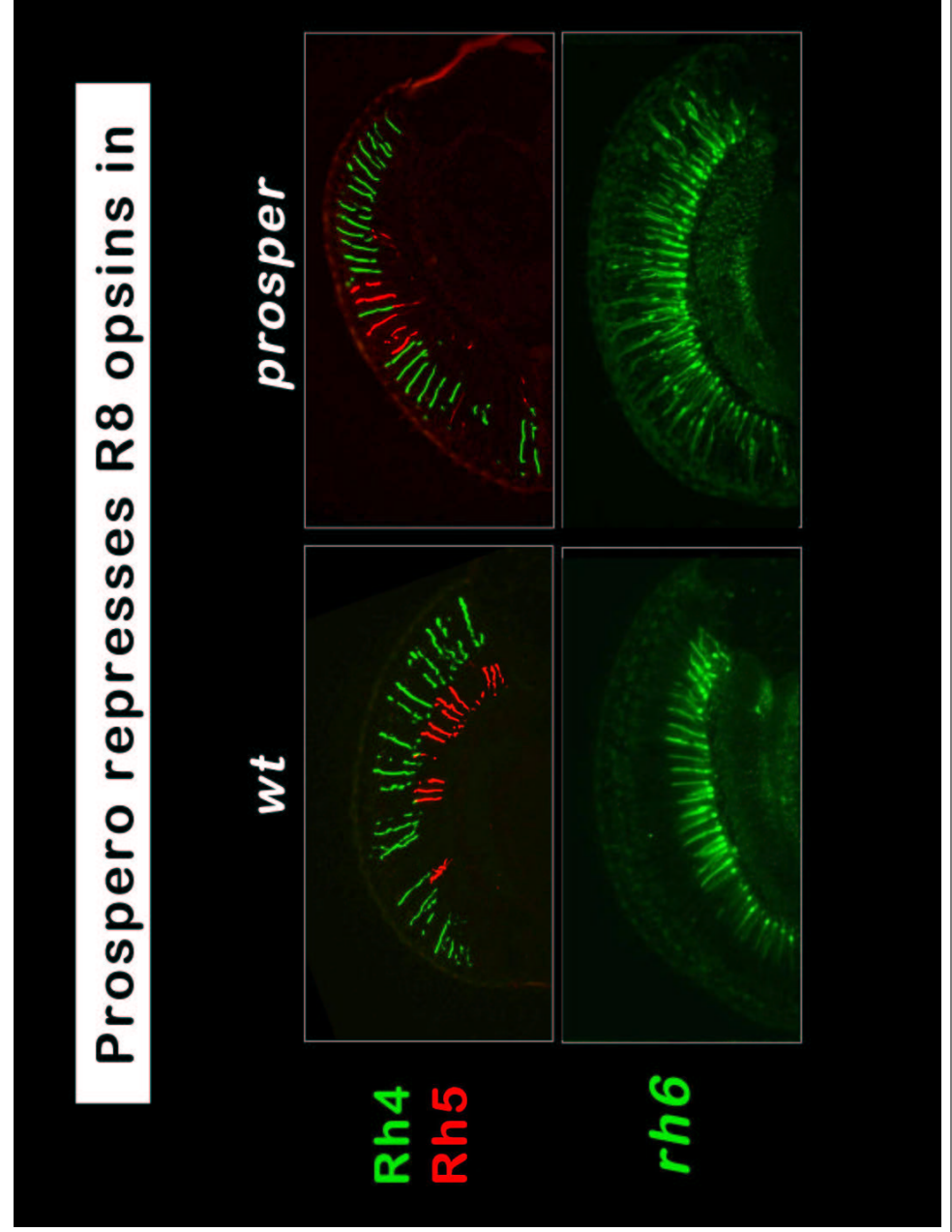
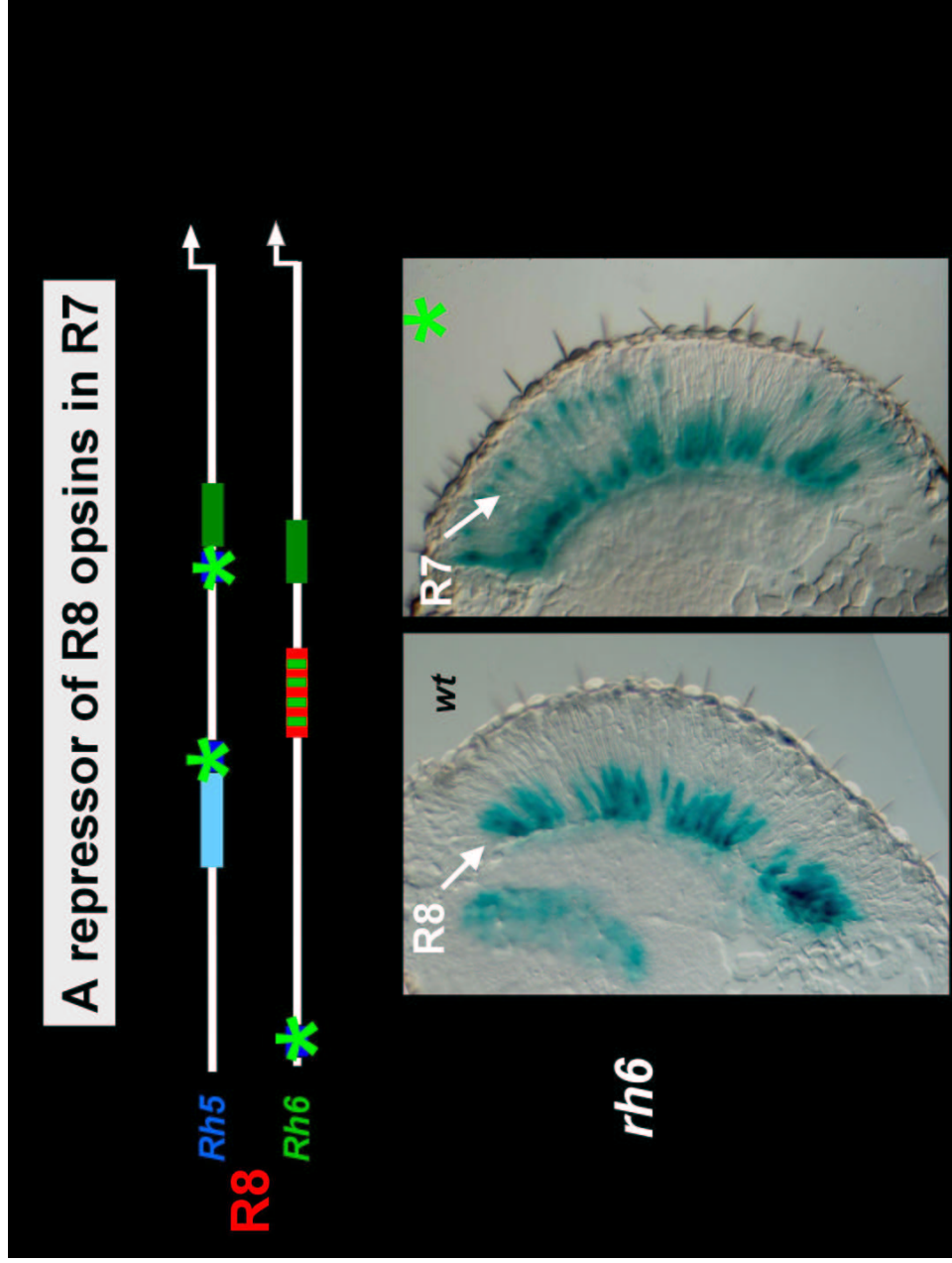
**Spalt specifies inner PR fate**



**R7 vs. R8 differentiation**

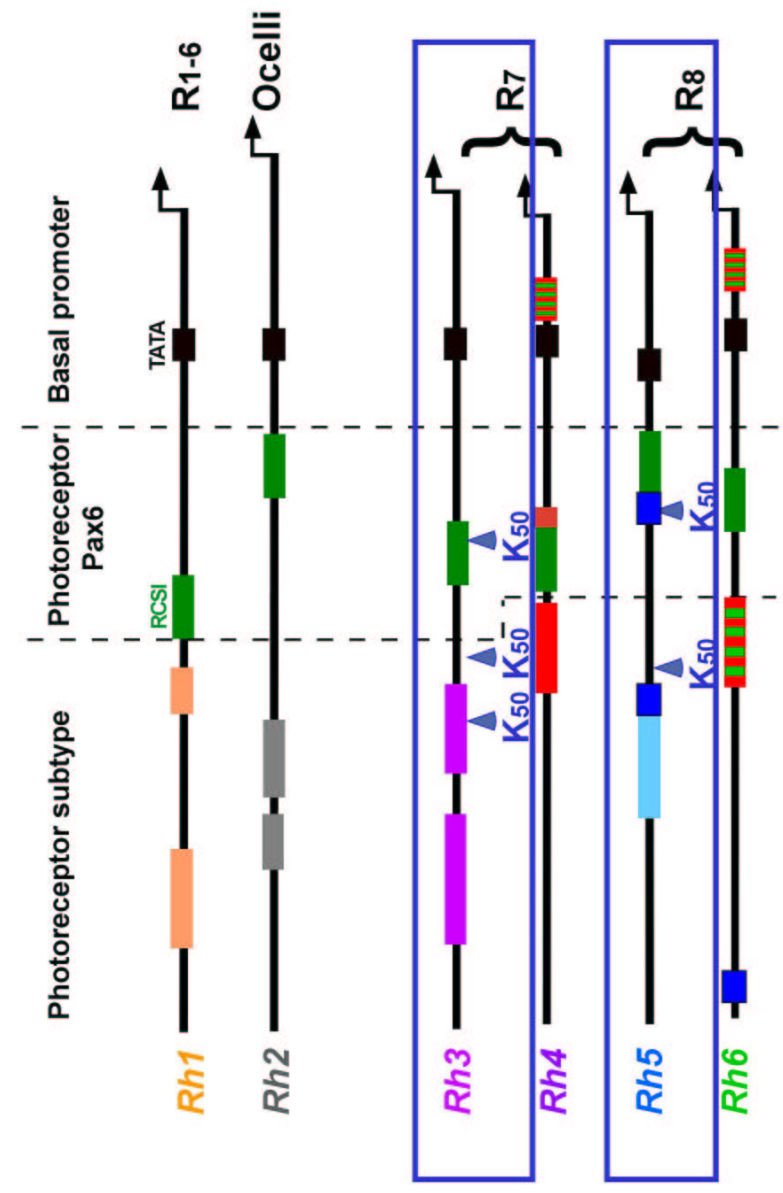
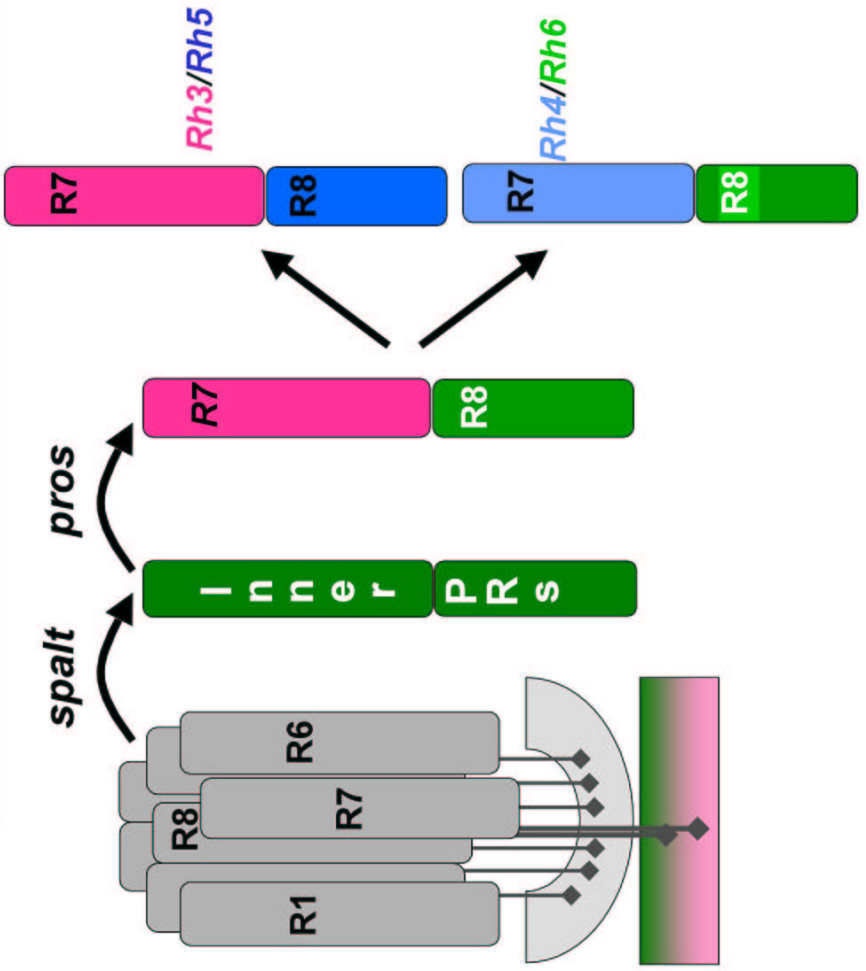




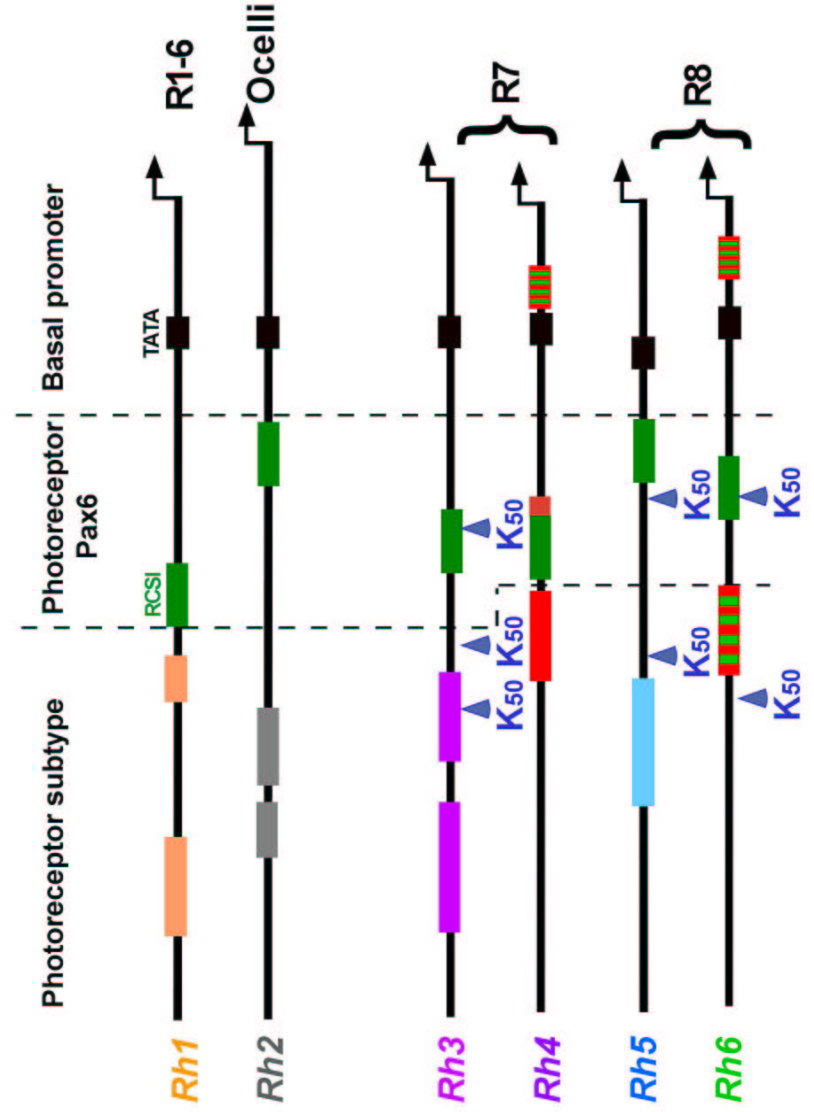
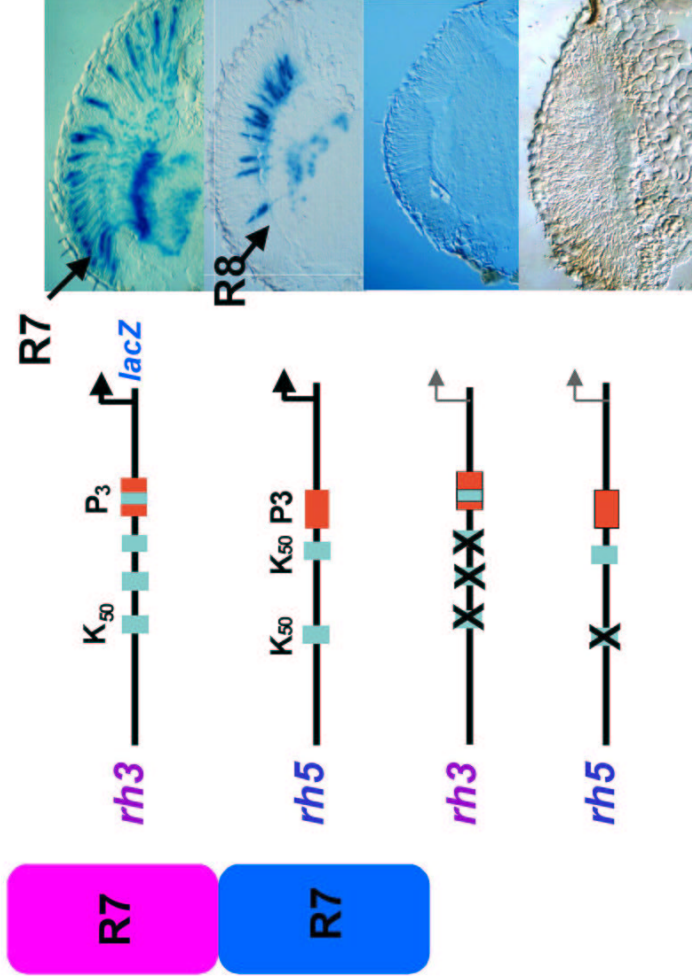




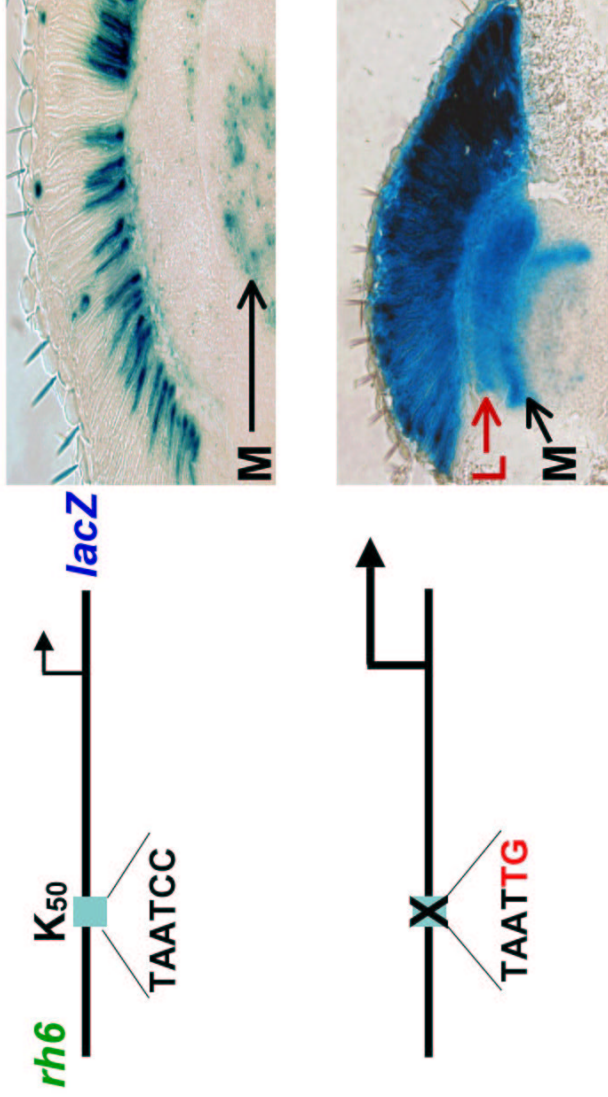
**Refinement of photoreceptor fate**



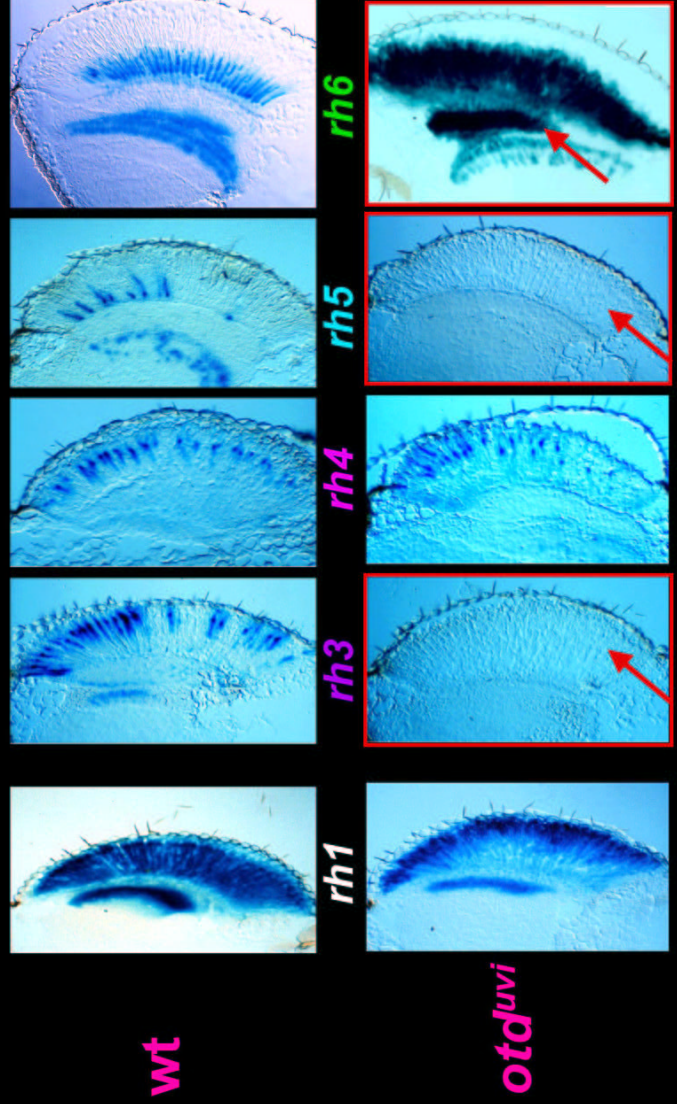
Activation of *rh3* & *rh5* by K50 sites



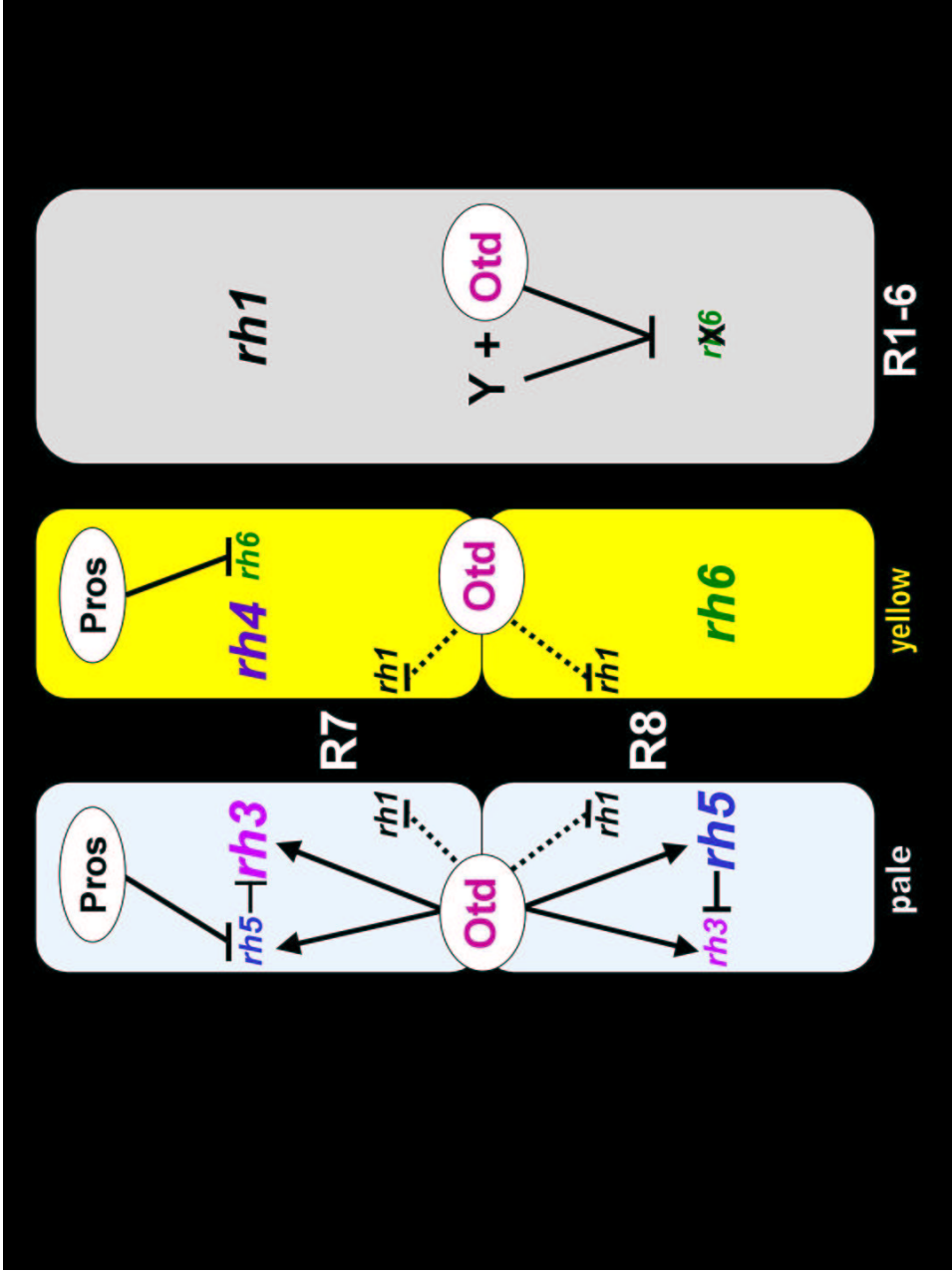
Repression of *rh6* by  $K_{50}$  sites



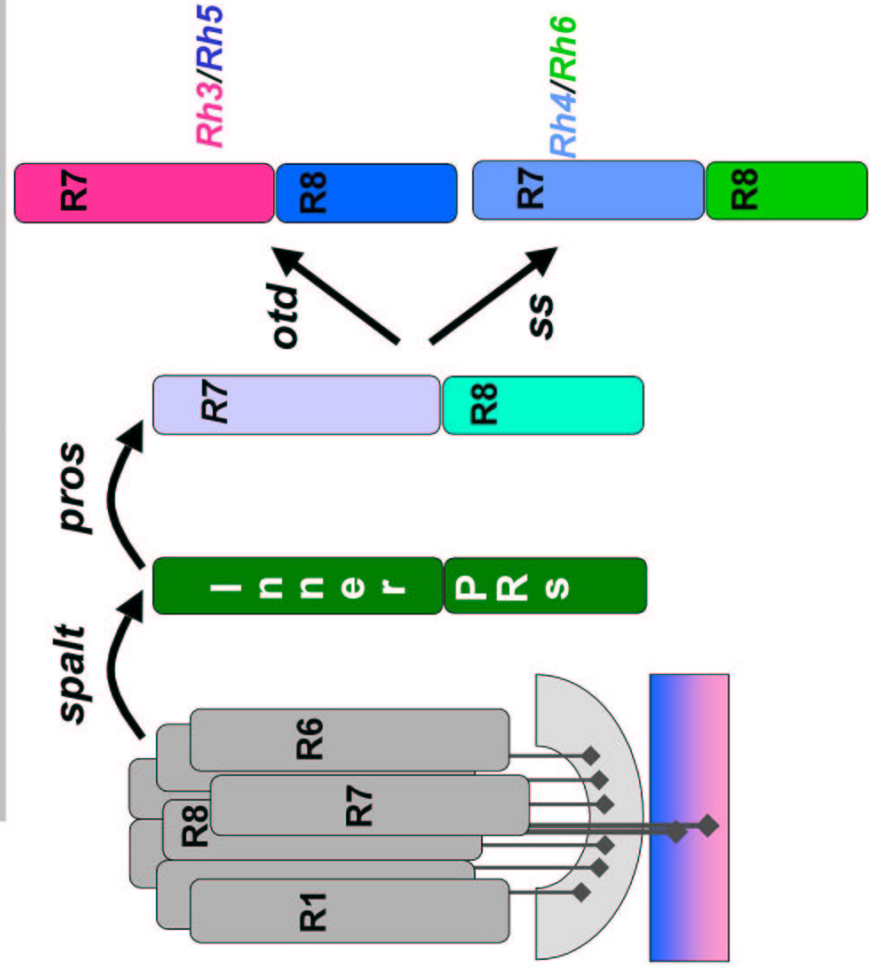
*otd*: activator of *rh3* and *rh5*, repressor of *rh6*

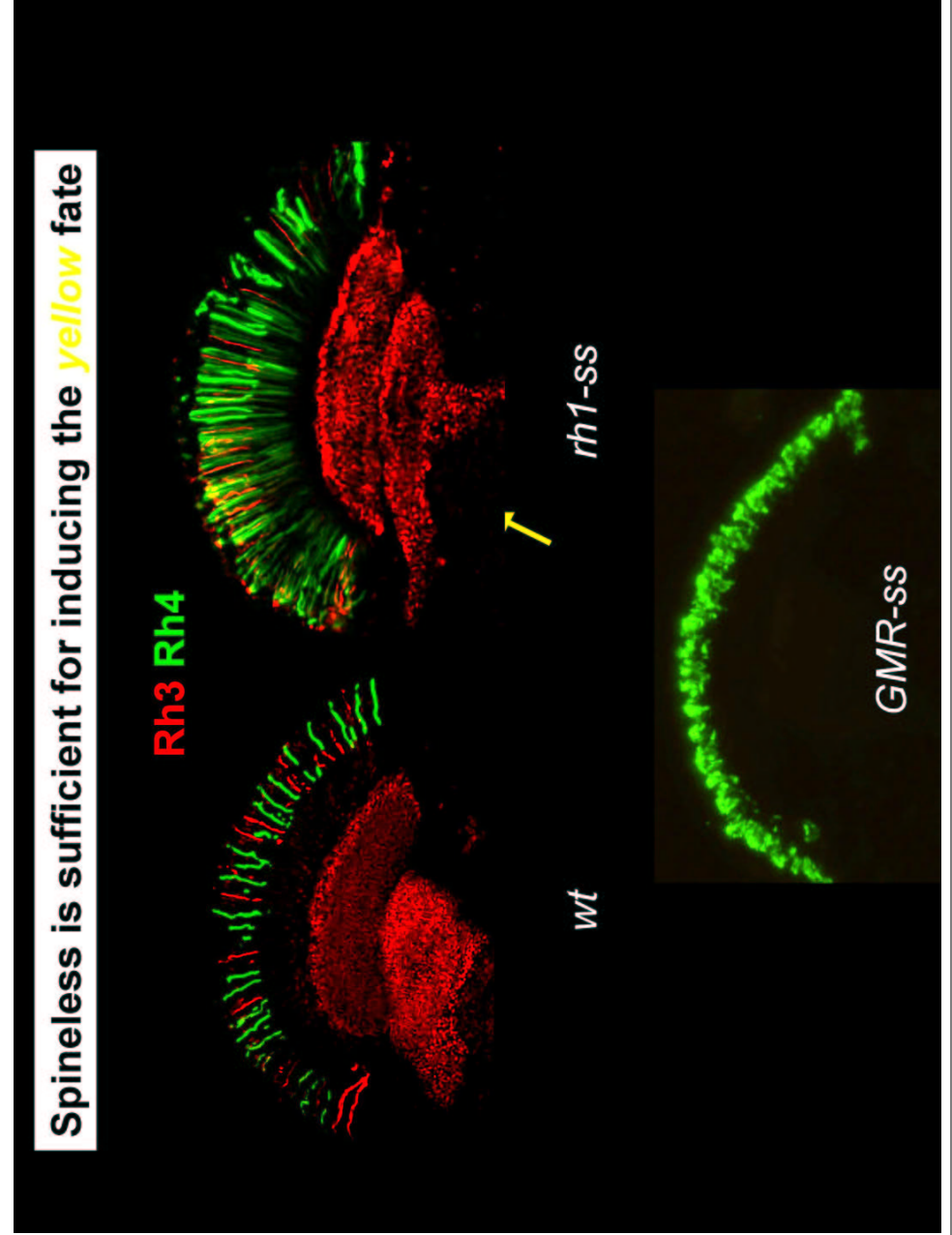
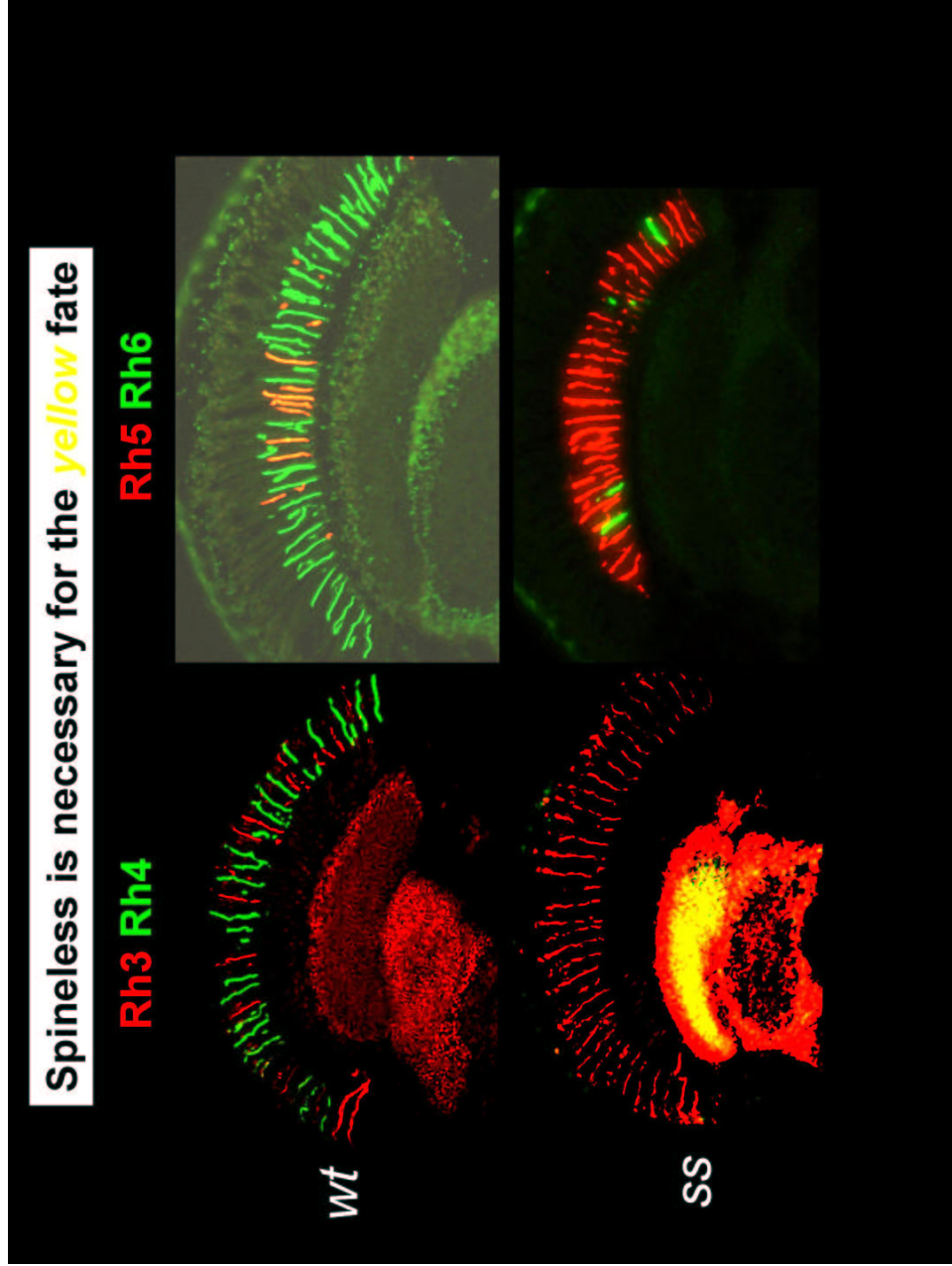


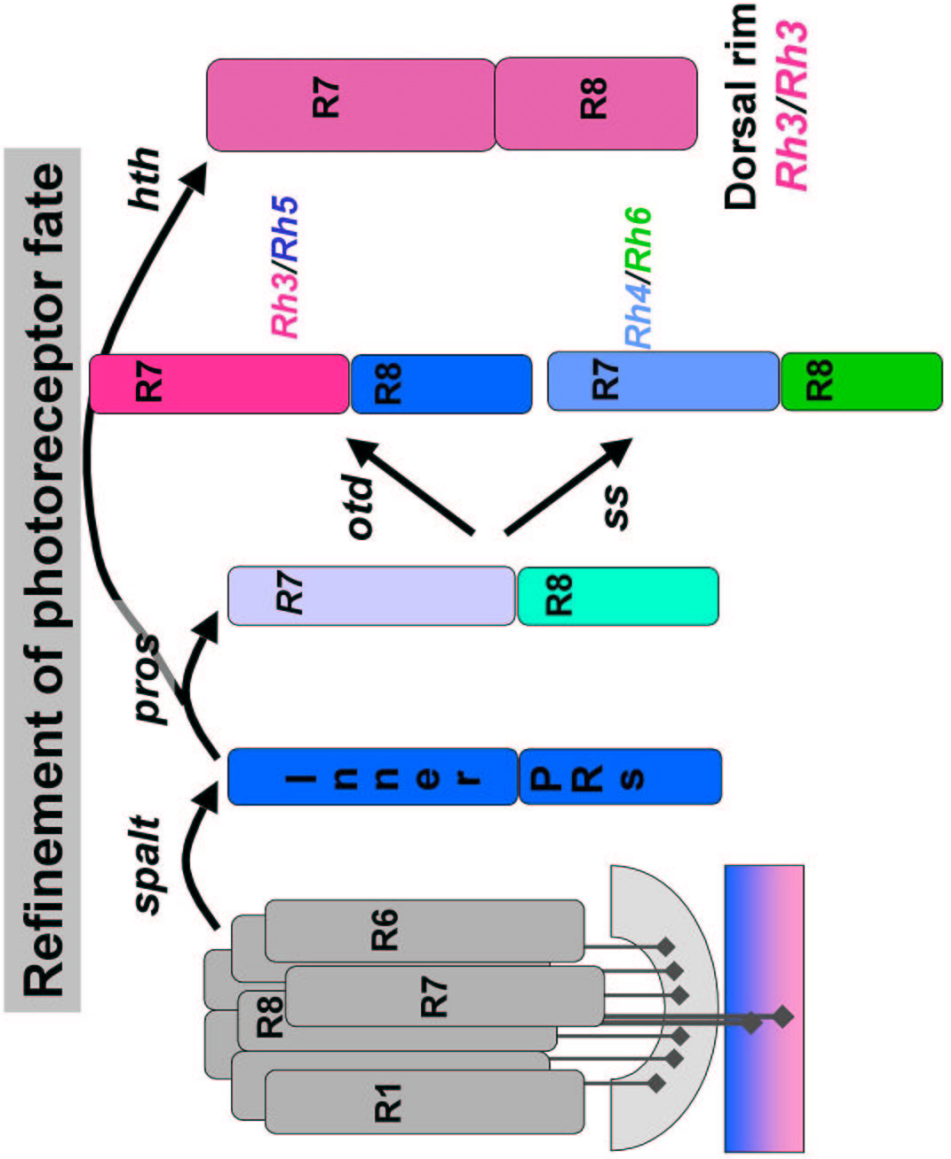




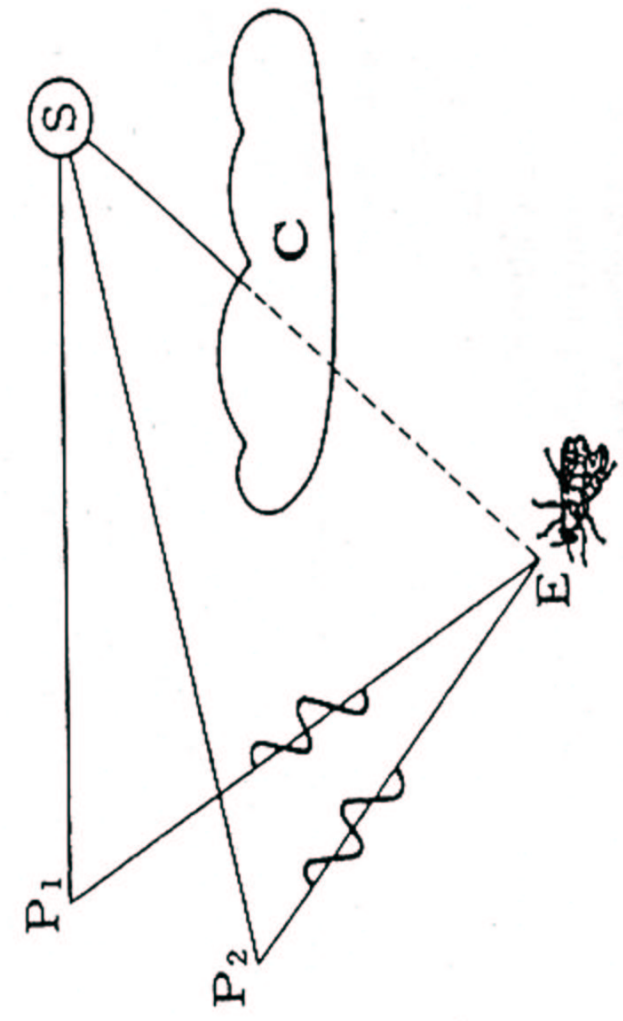
Refinement of photoreceptor fate



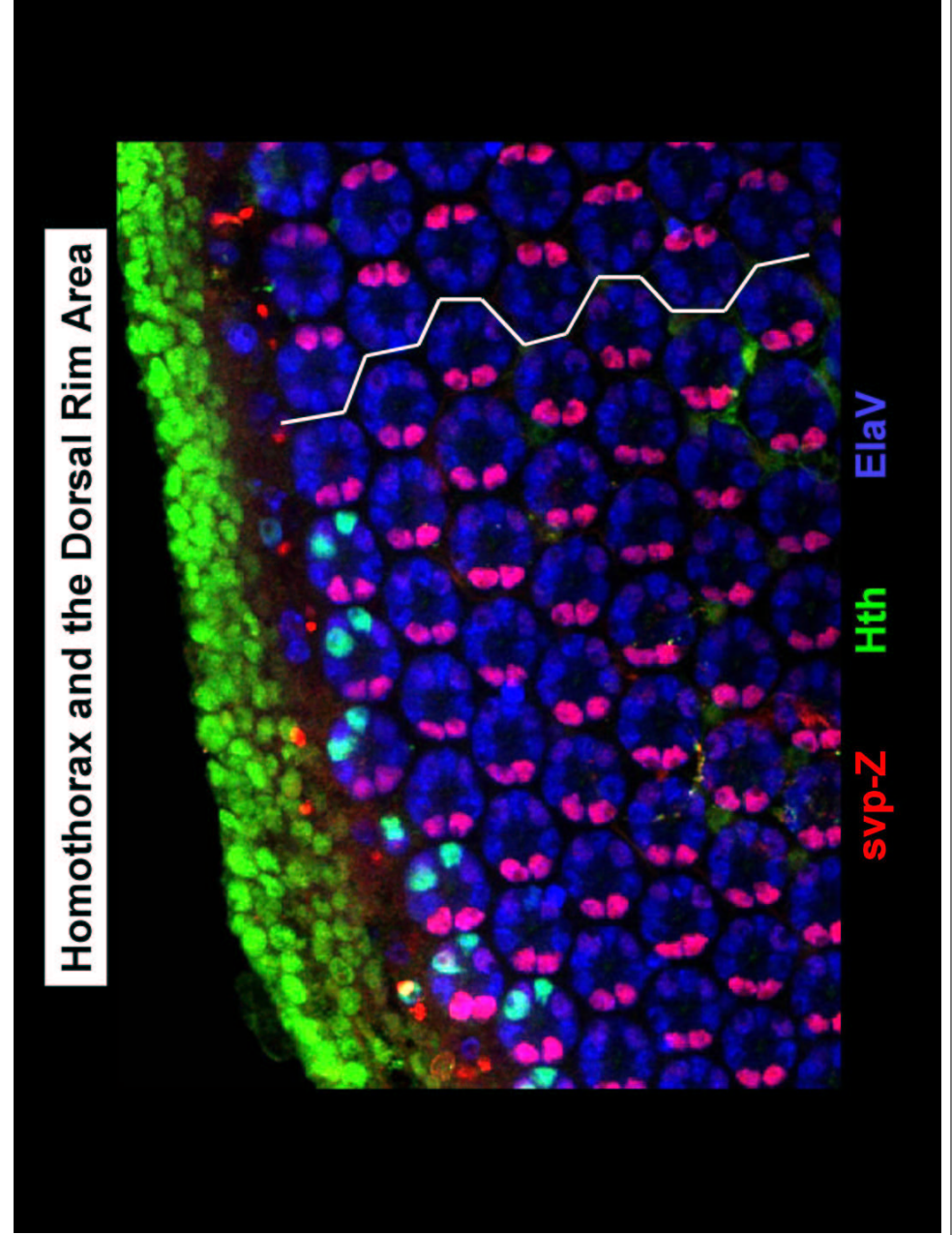
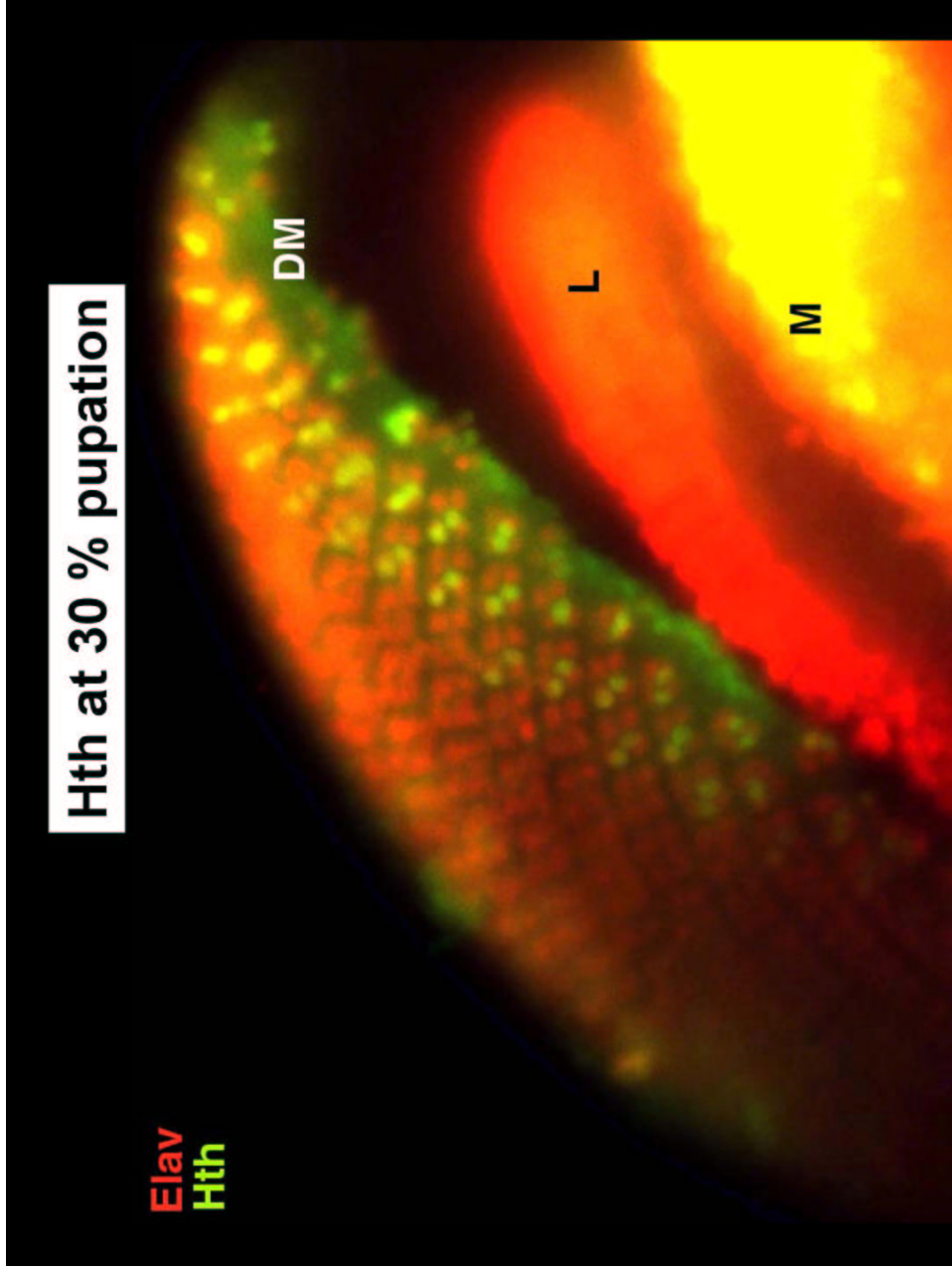




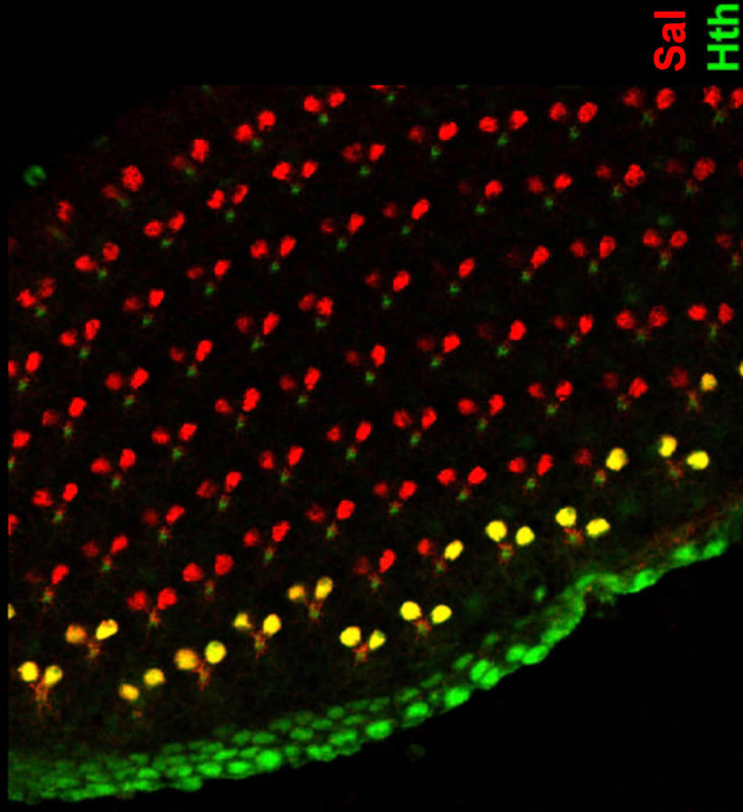
**Navigation using polarized light**



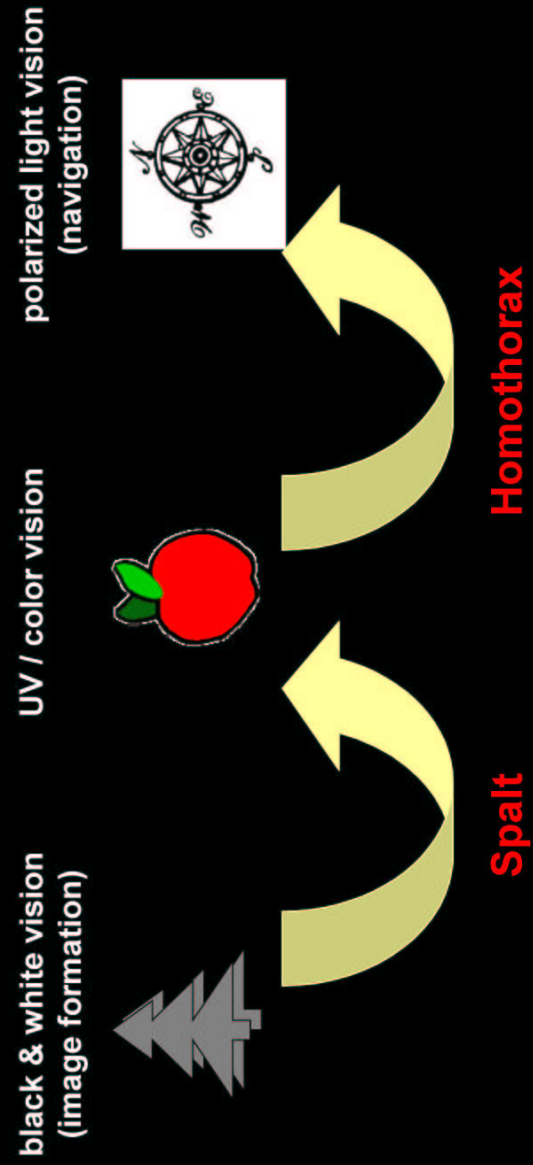




DRA inner PRs express Hth and Spalt

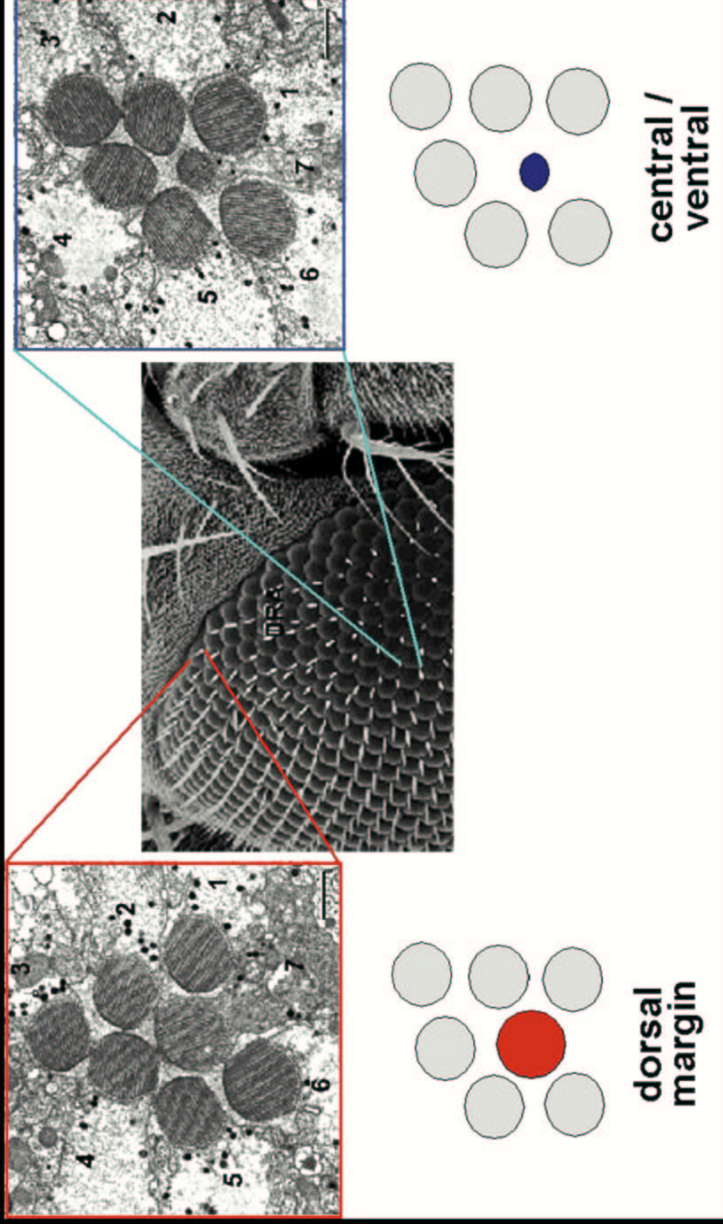


DRA inner PR differentiation occurs in two steps

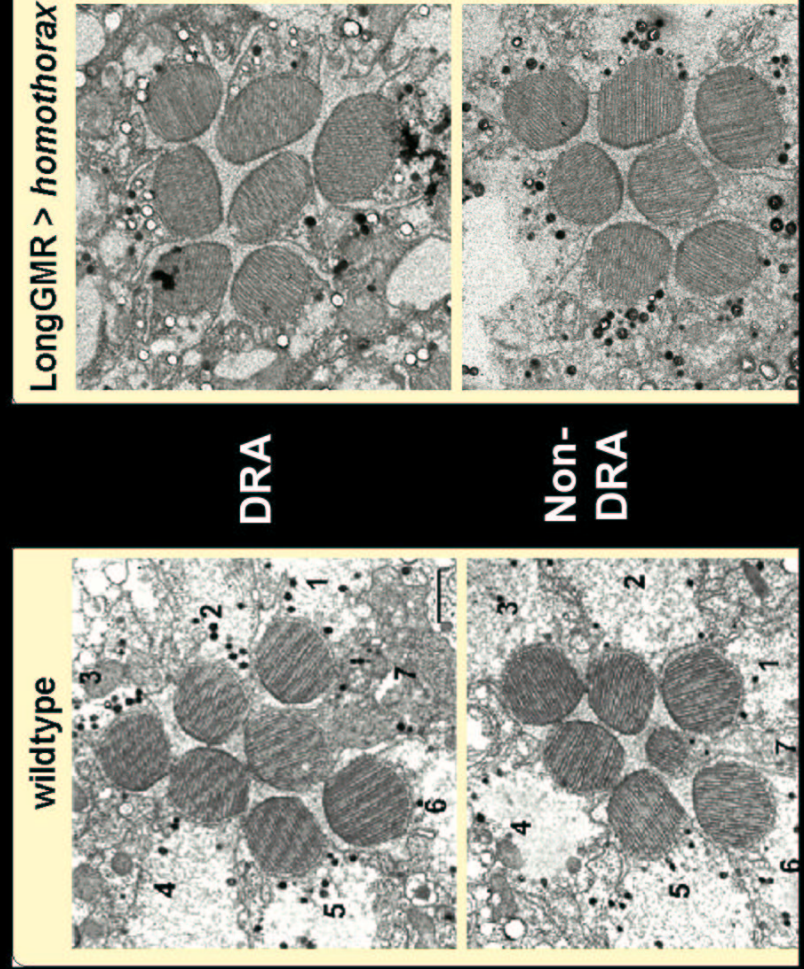




**The Dorsal Rim Area (DRA):  
Detection of polarized light**



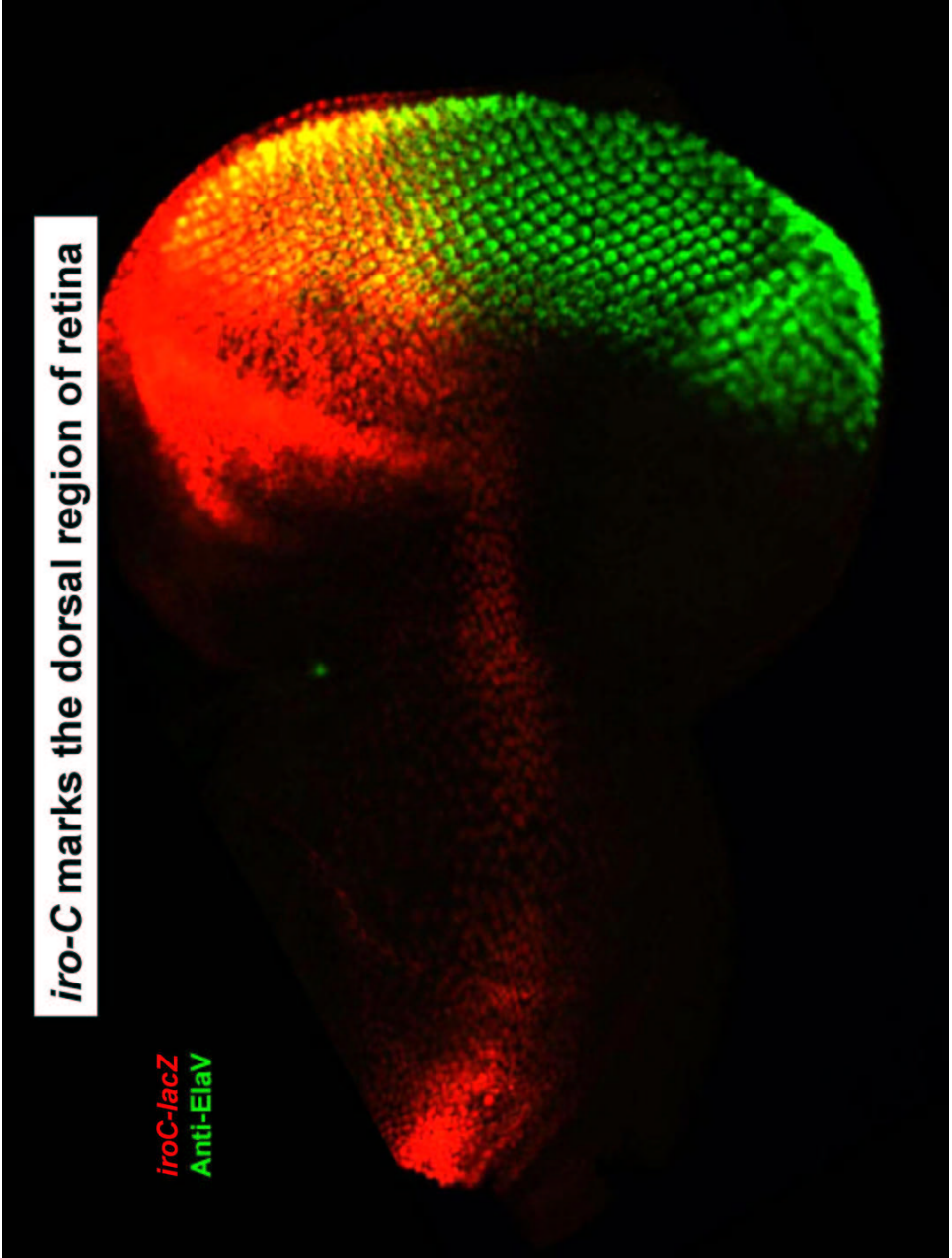
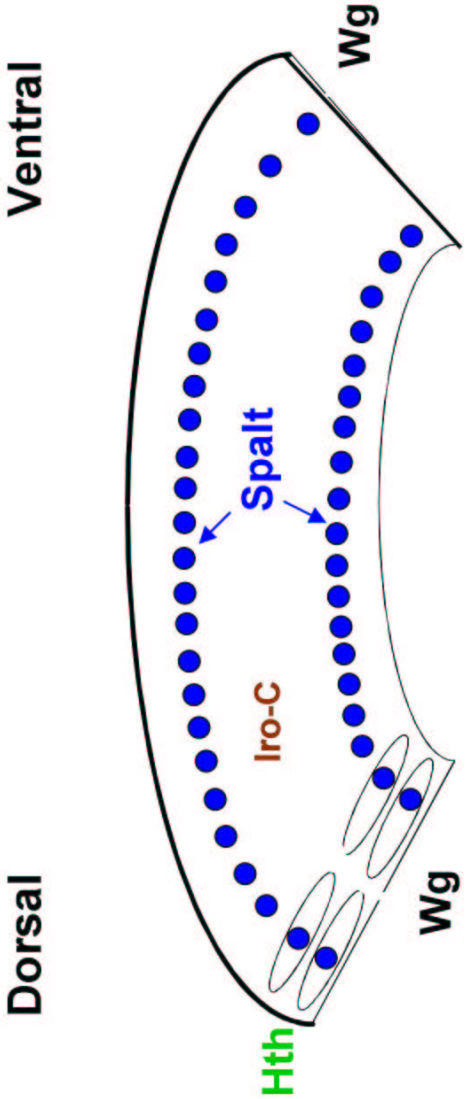
**Over-expression of *homothorax* in all photoreceptors**

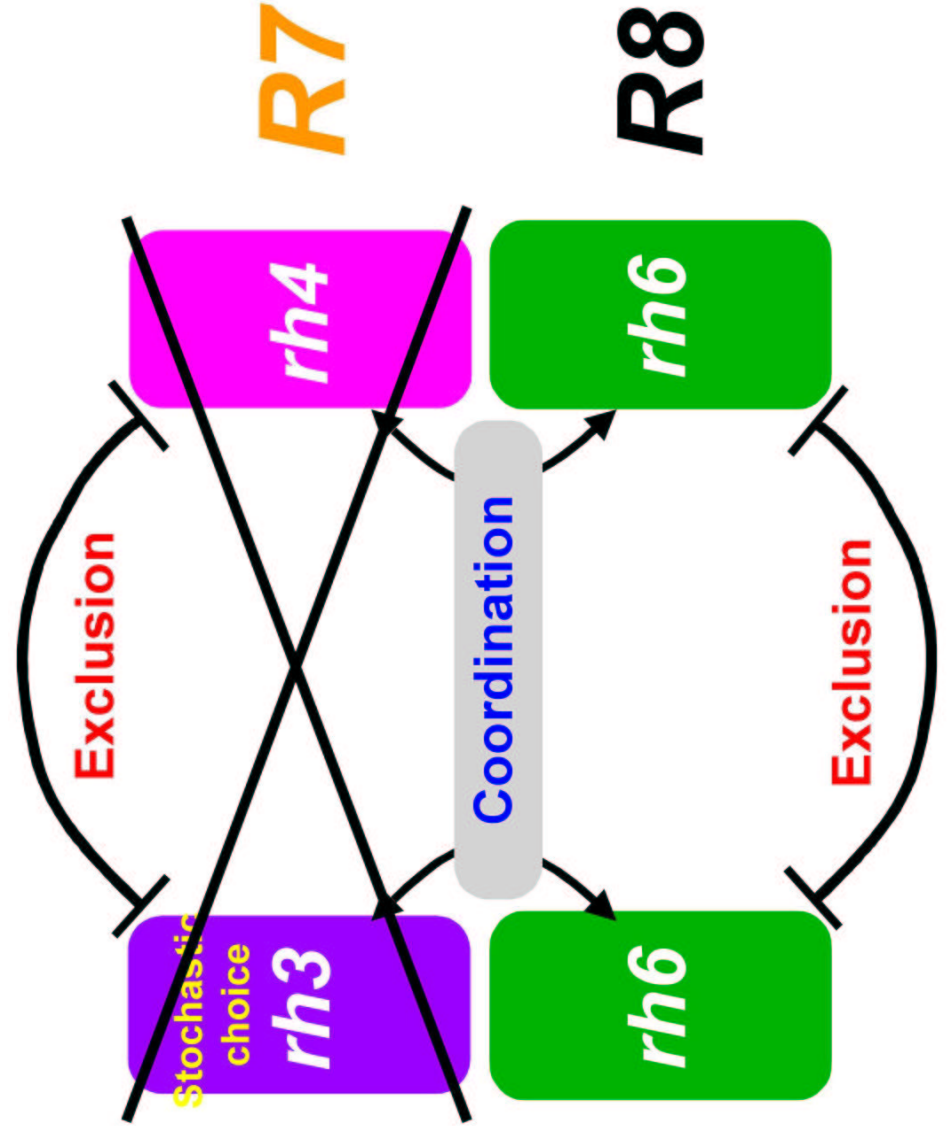
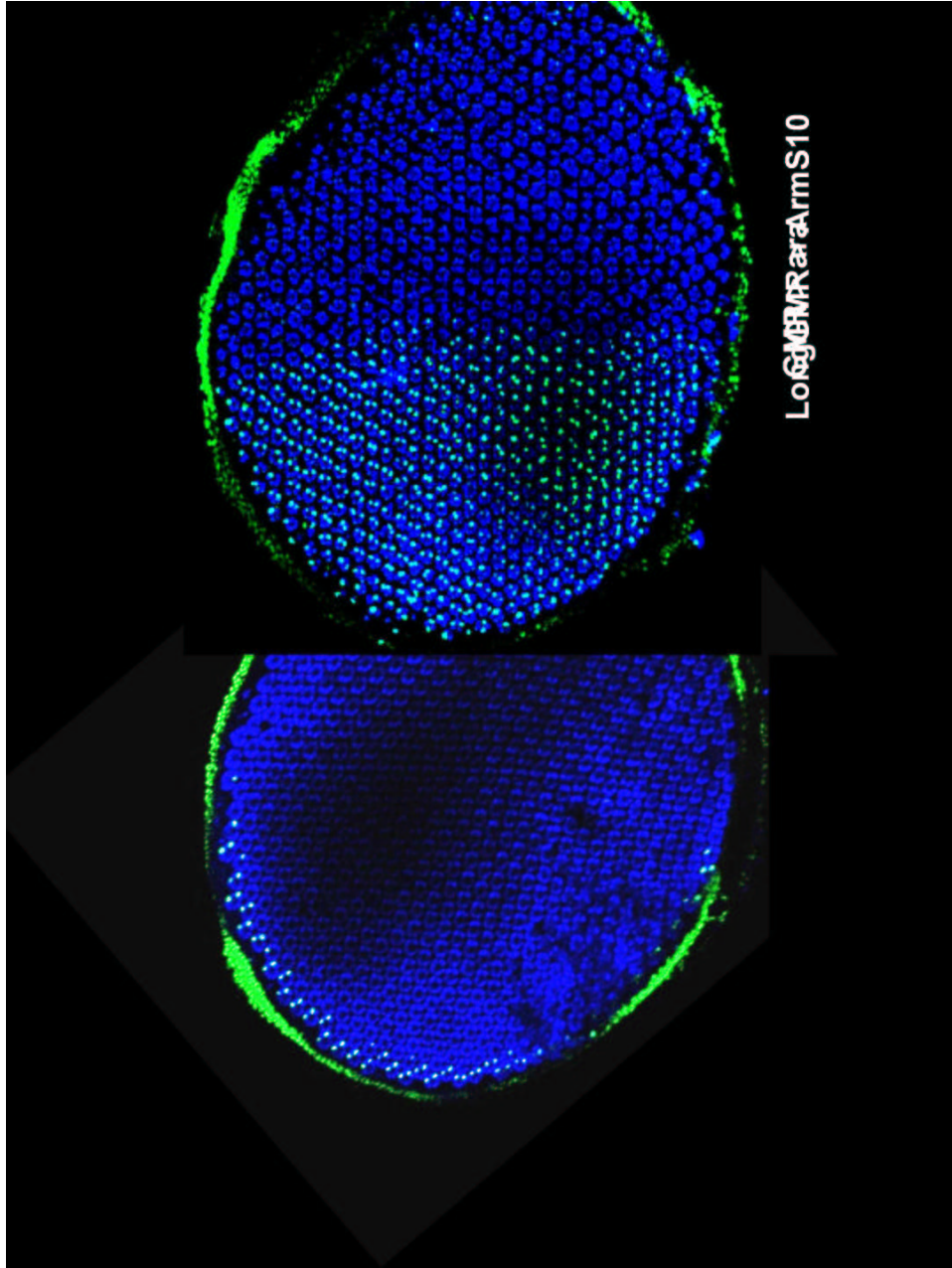


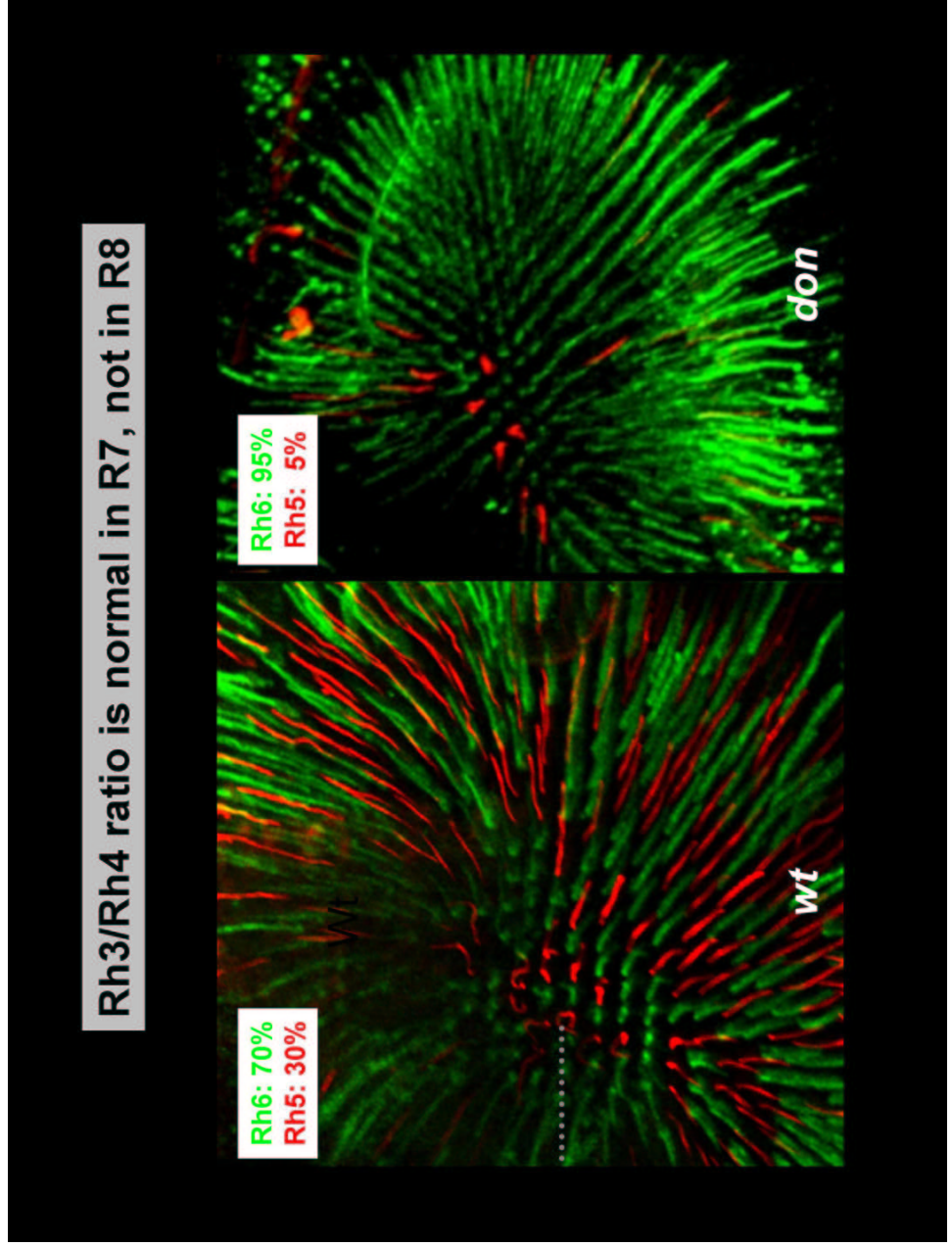
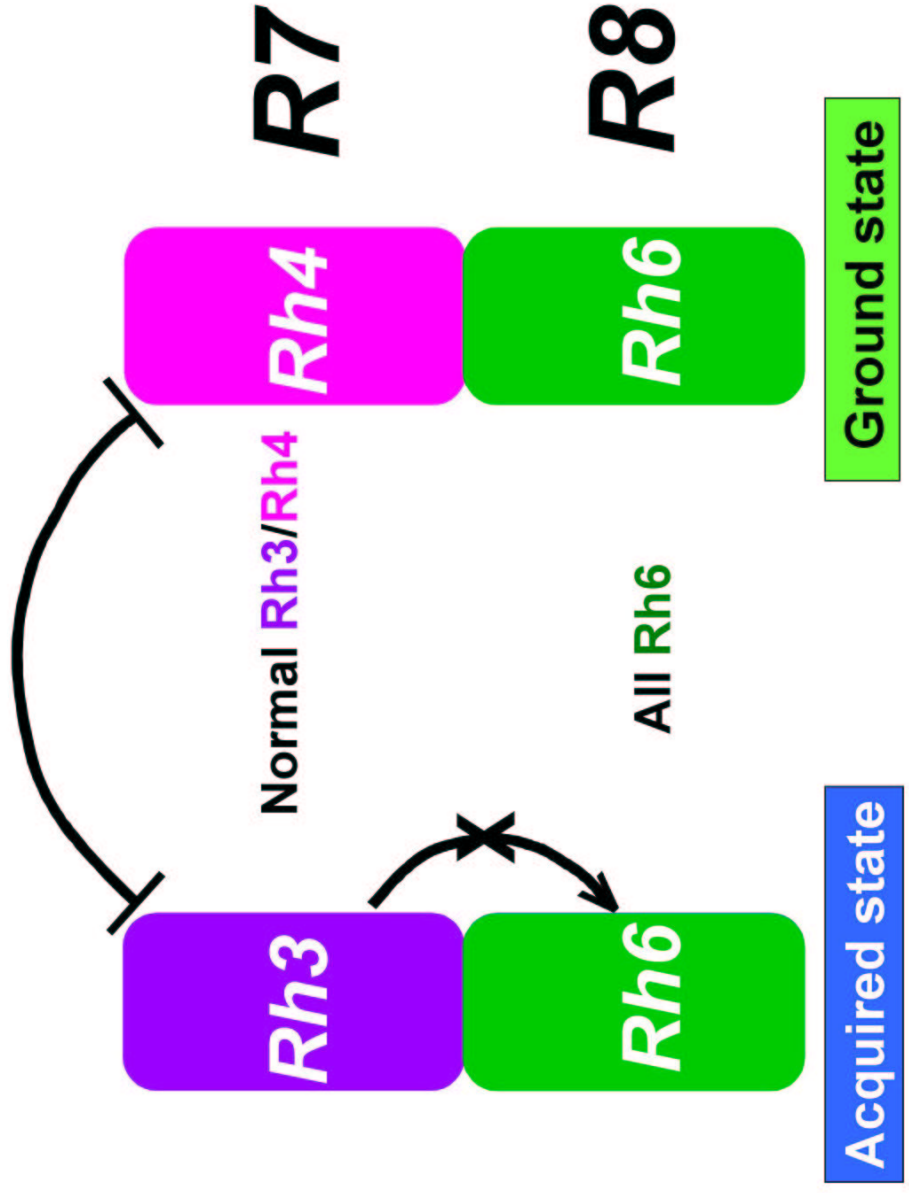
Thomas Labbart, Zurich



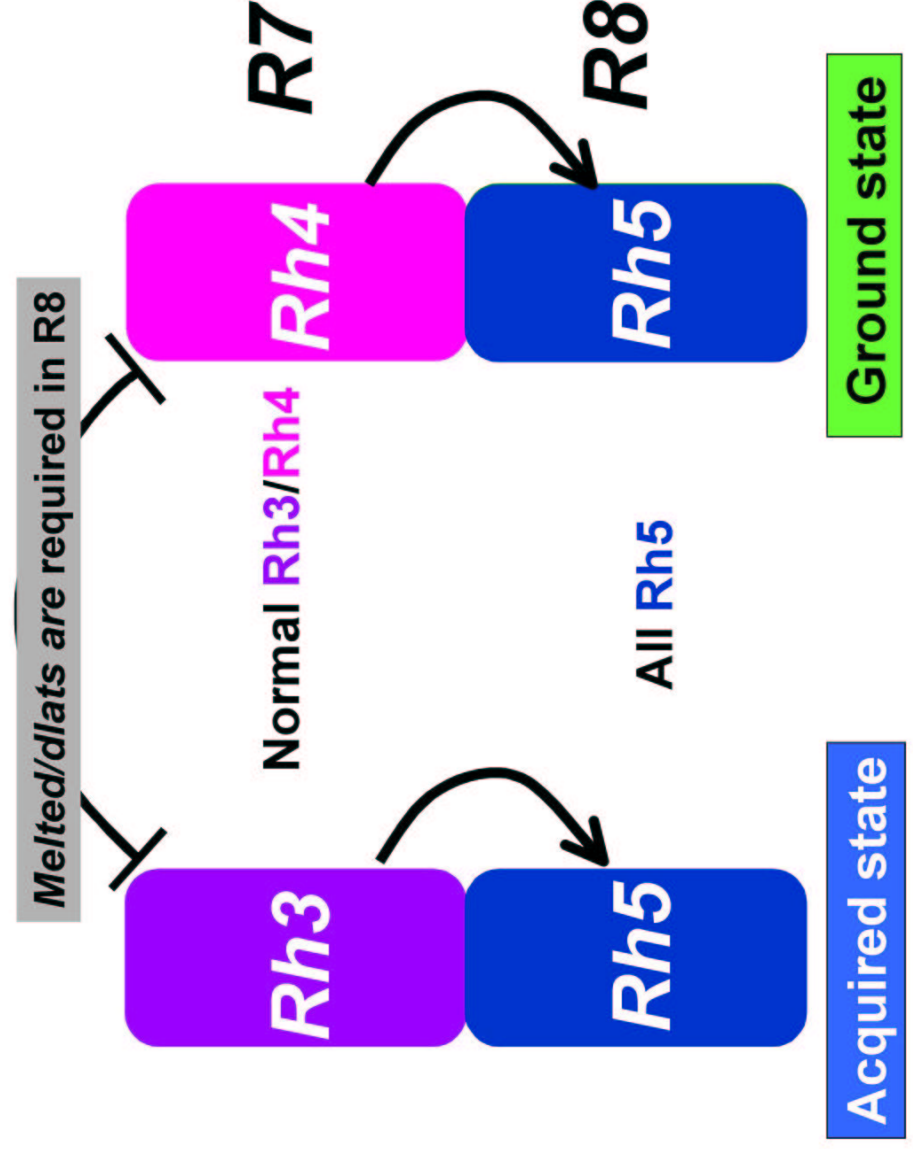
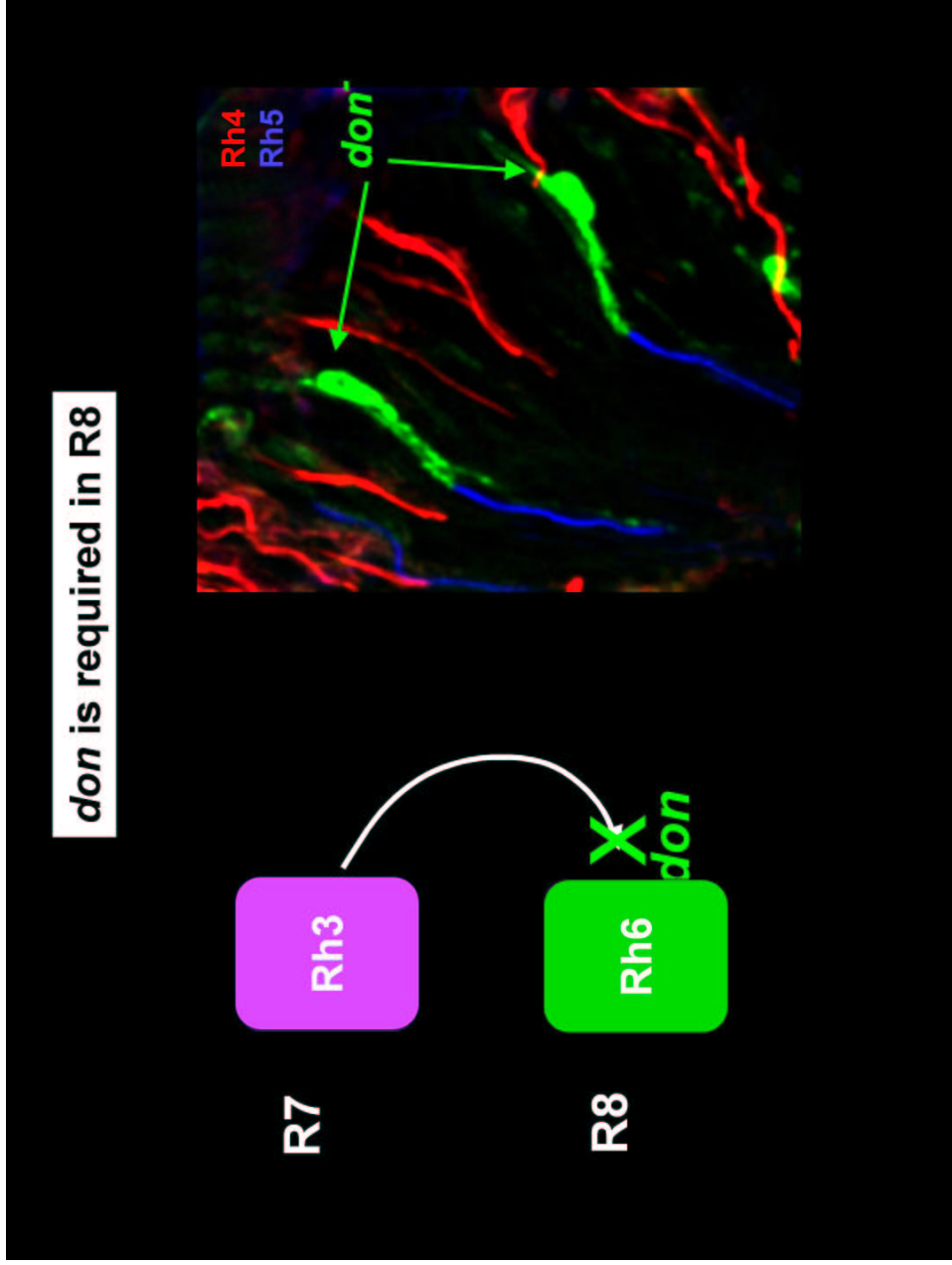
What controls *hth*?



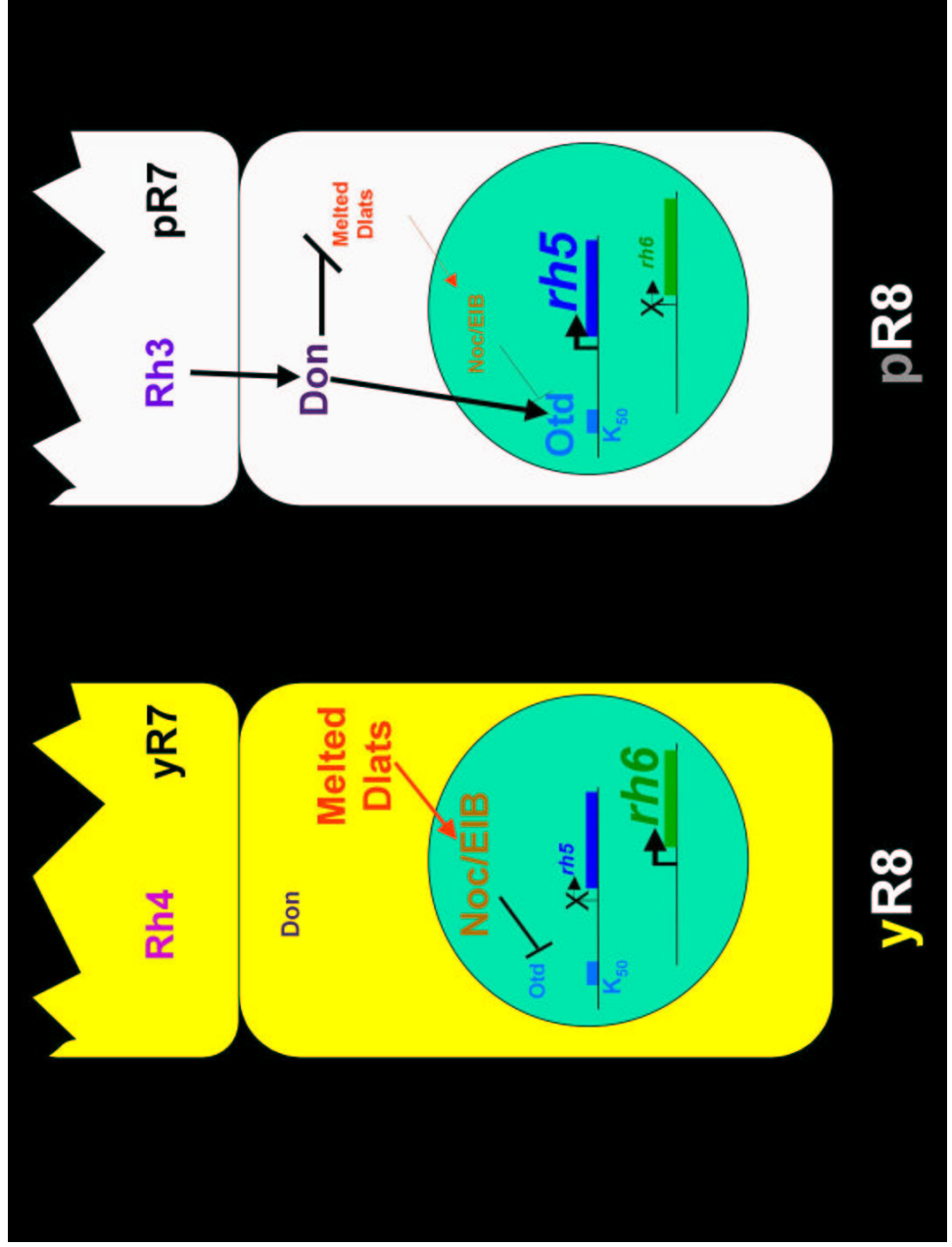
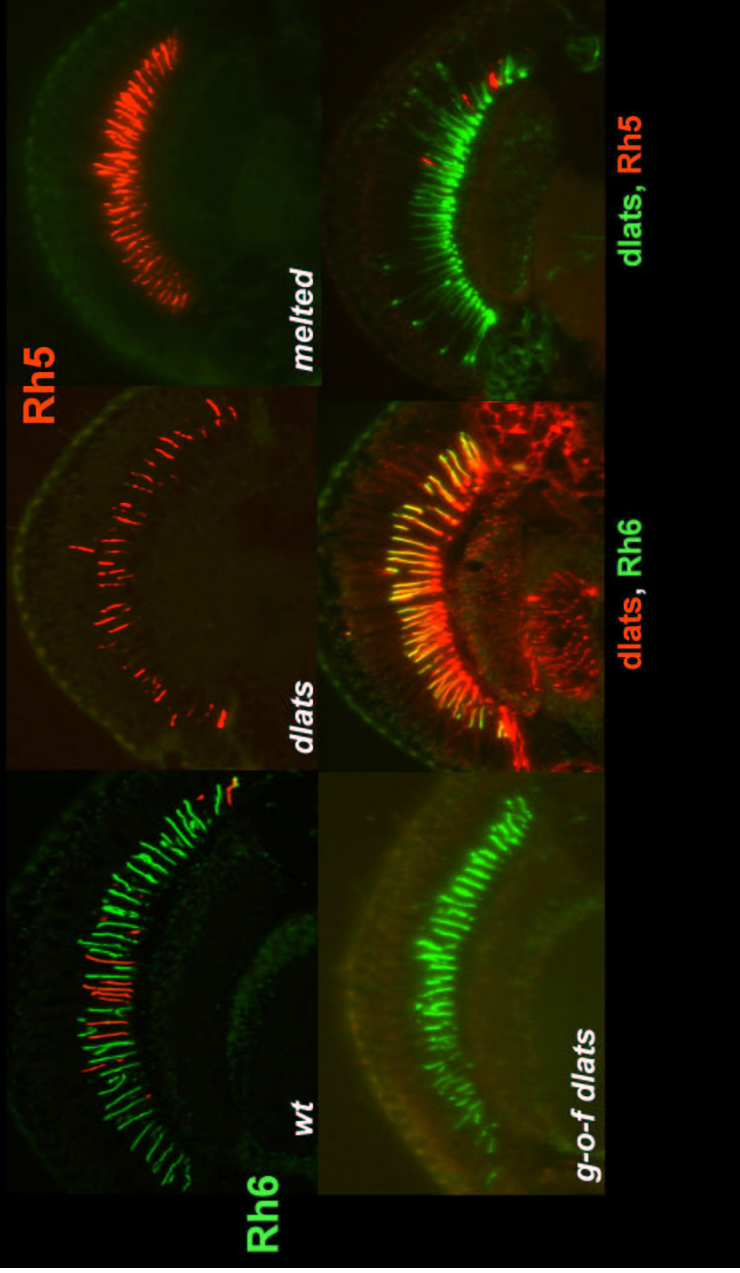


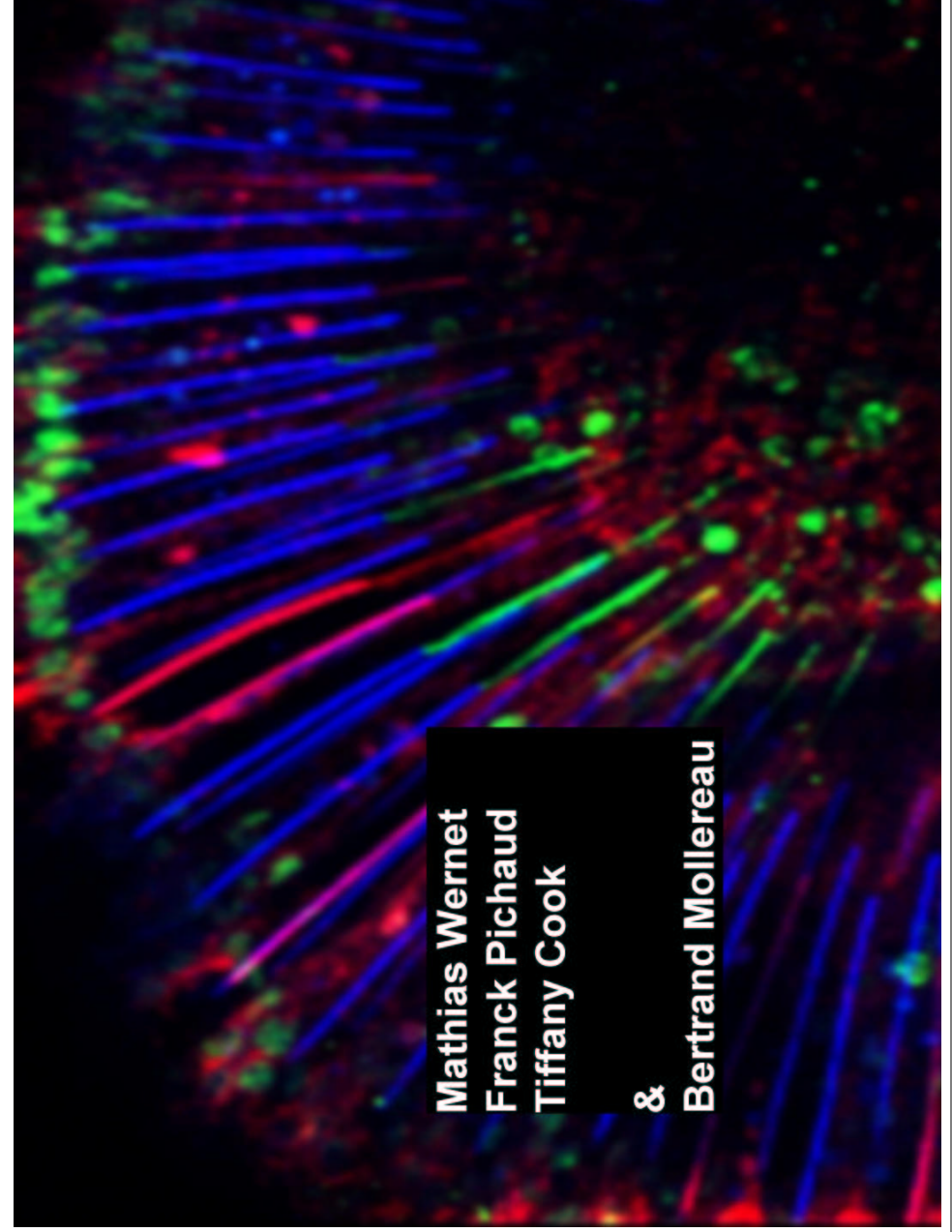
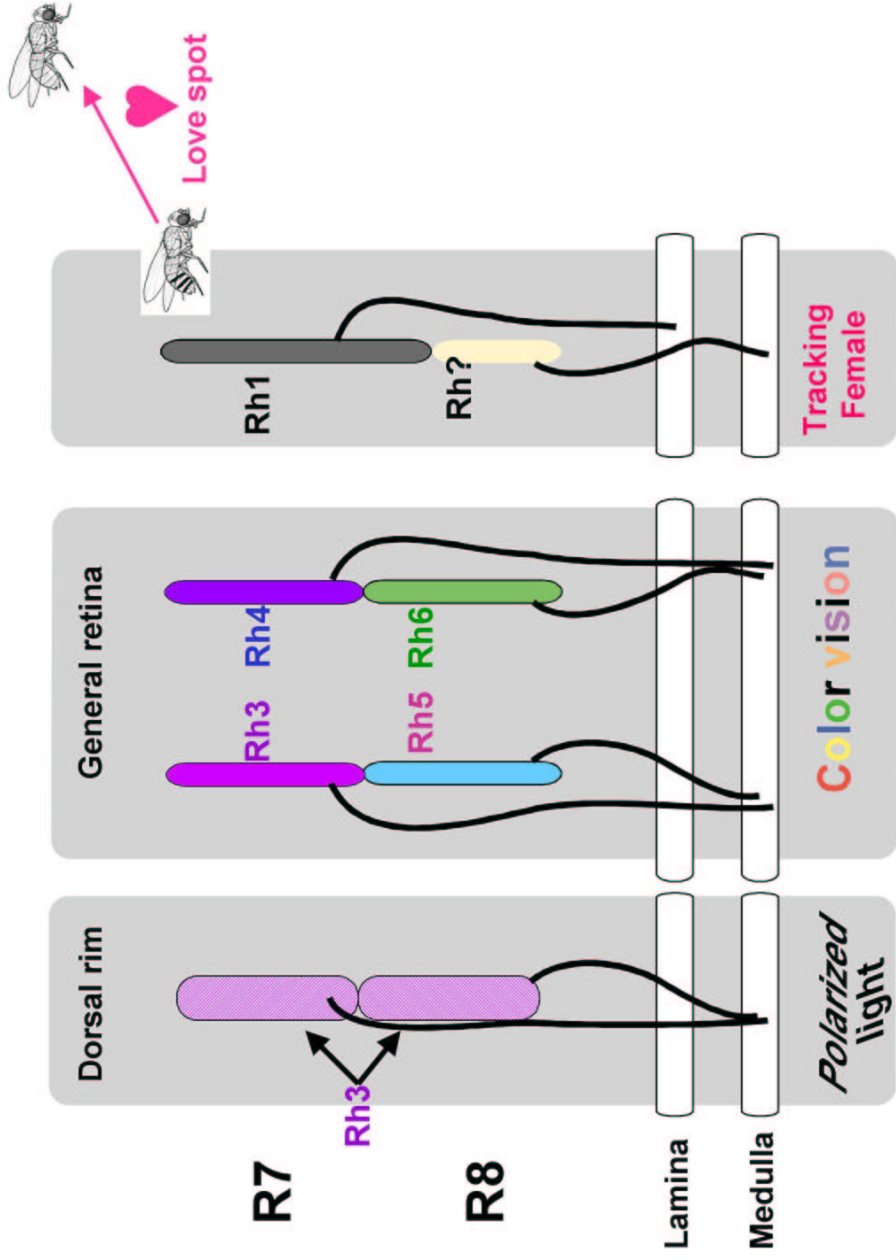






R8 rhodopsins are affected in *melted* & *dlats*





Mathias Wernet  
Franck Pichaud  
Tiffany Cook  
& Bertrand Mollereau