

**ZOO332H1S**  
**Supplementary on Techniques**  
**(and Electric Ray)**

Examples of Autoradiography - *in situ*  
Hybridization using  $^{33}\text{P}$ -labelled RNA probes

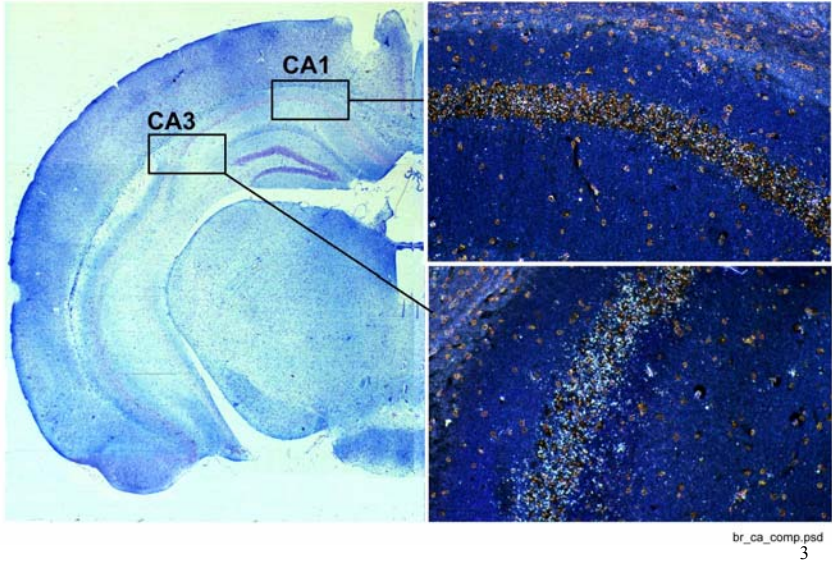
1

**Note:**

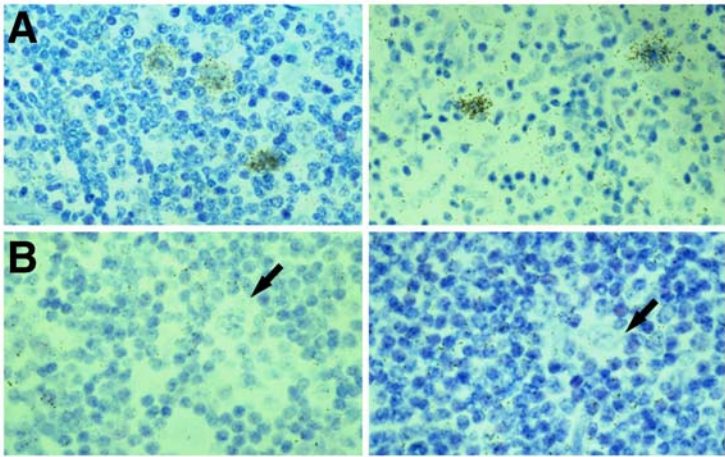
- tissue sections – RNase free
- make labelled antisense RNA probe from DNA template; sense probe used as control
- applied antisense probe hybridizes to single strand mRNA; sense probe should not
- washes
- dry and apply very thin coat of liquid photographic emulsion (in the dark of course)
- let incubate 3 days to 2 weeks, during which time radioactive decay (beta particles) from  $^{33}\text{P}$  react with emulsion and cause silver grains (microscopic size) to deposit above cells where probe has hybridized

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**X-Gene – WT Expression  
Mouse Brain Hippocampus**

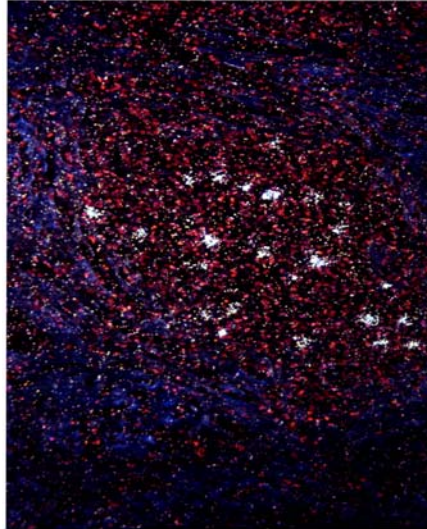


**Hodgkin's Lymphoma – Reed-Sternberg Cells  
+ve for IL13 Transcript (mRNA)**



**<sup>33</sup>P-Autoradiography of Hodgkin's Lymphoma  
Dark Field Microscopy**

Reed-Sternberg Cells  
(+ve for IL13 mRNA)

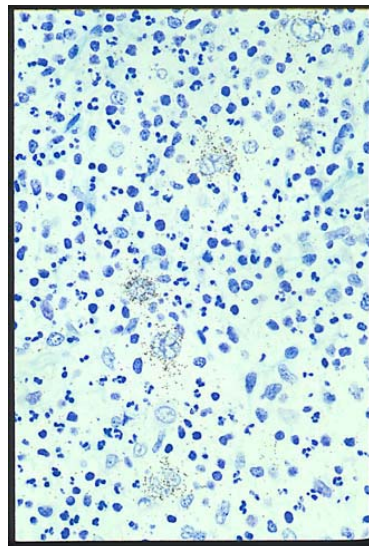


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**<sup>33</sup>P-Autoradiography of Hodgkin's Lymphoma  
Bright Field Microscopy**

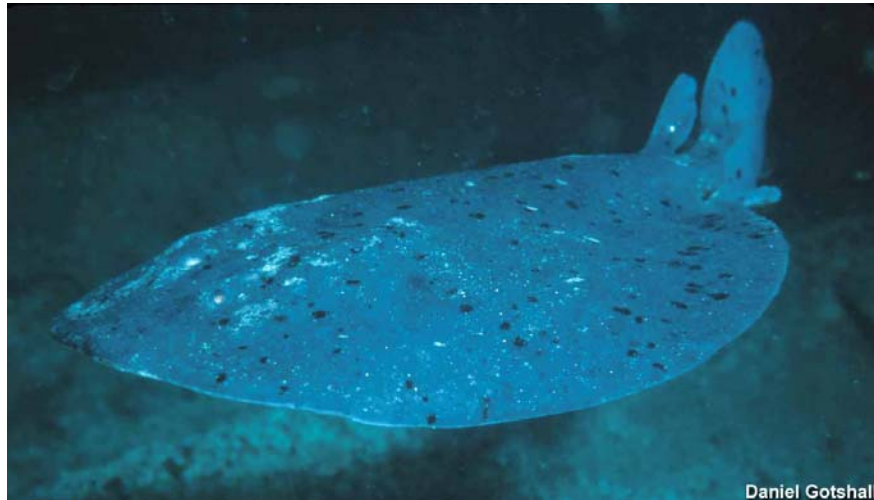
Toluidine Blue counterstain

Reed-Sternberg Cells  
(+ve for IL13 mRNA)



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**Torpedo Ray - (*Torpedo californica*) are identifiable by their flat gray bodies and black spots. Interestingly these animals catch their prey by stunning them with a jolt!(photo: Daniel Gotshall)**



[http://www.sanctuaries.nos.noaa.gov/pgallery/pgchannel/living/living\\_30.html](http://www.sanctuaries.nos.noaa.gov/pgallery/pgchannel/living/living_30.html)

## **Torpedo Ray (*Torpedo californica*)**

