

Fixation, Processing, and Immunofluorescent Labeling of Whole Mount Planarians.

Journal:	Methods Mol Biol
Publication Year:	2018
Authors:	David J Forsthoefel, Kelly G Ross, Phillip A Newmark, Ricardo M Zayas
PubMed link:	29916163
Funding Grants:	The molecular basis underlying adult neurogenesis during regeneration and tissue renewal

Public Summary:

Efforts to elucidate mechanisms of regeneration in the planarian *Schmidtea mediterranea* have included the application of immunocytochemical methods to detect specific molecules and label cells and tissues in situ. Here we describe methods for immunofluorescent labeling of whole mount planarians. We outline protocols for fixation and steps for processing animals prior to immunolabeling, incorporating commonly utilized reagents for mucus removal, pigment bleaching, tissue permeabilization, and antigen retrieval. Because processing steps can mask or degrade antigens, we also recommend protocol parameters that can be tested simultaneously to optimize sample preparation for novel antibodies.

Scientific Abstract:

Efforts to elucidate mechanisms of regeneration in the planarian *Schmidtea mediterranea* have included the application of immunocytochemical methods to detect specific molecules and label cells and tissues in situ. Here we describe methods for immunofluorescent labeling of whole mount planarians. We outline protocols for fixation and steps for processing animals prior to immunolabeling, incorporating commonly utilized reagents for mucus removal, pigment bleaching, tissue permeabilization, and antigen retrieval. Because processing steps can mask or degrade antigens, we also recommend protocol parameters that can be tested simultaneously to optimize sample preparation for novel antibodies.

Source URL: <https://www.cirm.ca.gov/about-cirm/publications/fixation-processing-and-immunofluorescent-labeling-whole-mount-planarians>