

Introduction to the OMERO.editor

OMERO.editor is a Java tool that requires [Java 1.5](http://java.com/en/download/) (<http://java.com/en/download/>) and can operate as a stand-alone application or as part of the OMERO.insight client. In both cases, it saves metadata as XML files that can be used to annotate images, datasets etc., in OMERO. If used as part of OMERO.insight, the files can be saved to an OMERO server.

A [demo movie](#) of the OMERO.editor illustrates some of its functionalities.

(<http://cvs.openmicroscopy.org.uk/snapshots/omero/editor/movies/OMERO.editor-Beta4.mov>)

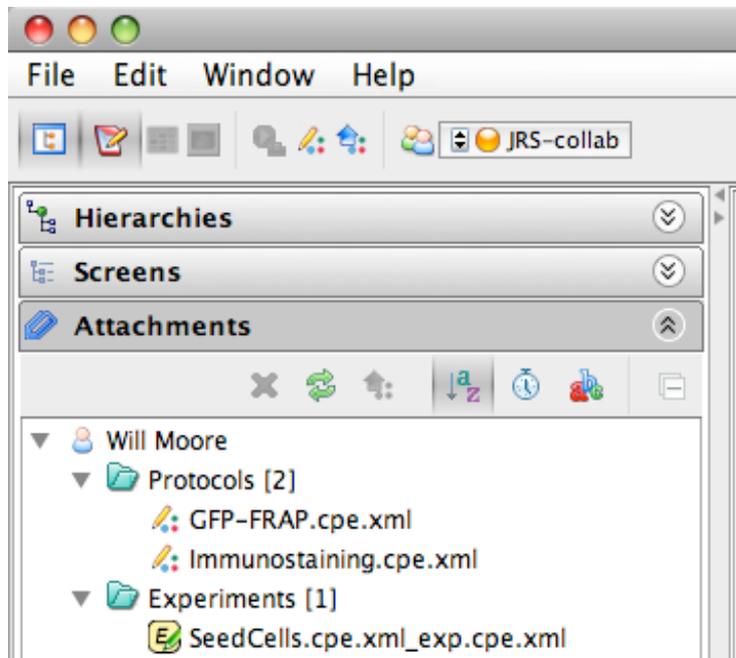
The OMERO.editor has been designed to achieve two key functions:

Facilitate the digital recording of experimental metadata.

Enable important parameters to be distinguished from the main text, e.g. to summarise the experiment in a concise form.

Start OMERO.editor from OMERO.insight

You can start the editor tool by clicking the following icon  in the toolbar. You can then open any editor file by double-clicking it, either when you find it attached to a Project, Dataset or Image, or by browsing under *View* ▶ *Attachments* (see screen shot).

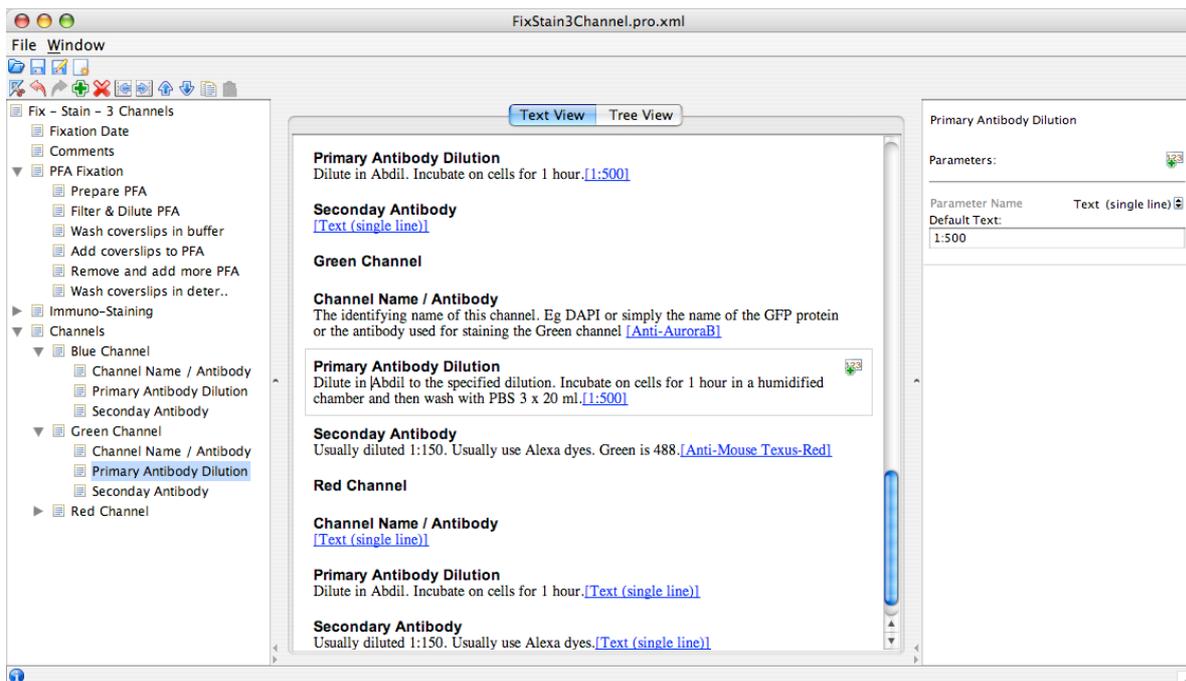


UI layout

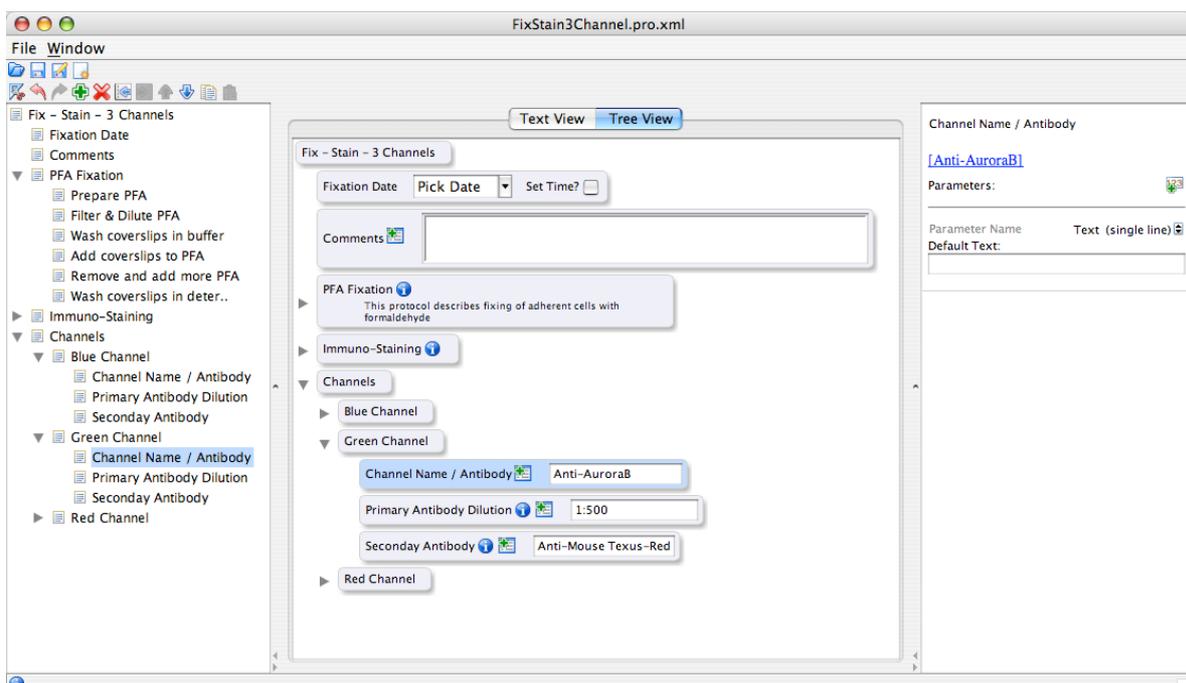
The OMERO.editor displays a single file per window, which will typically be split into 3 panels. The left of the UI displays a hierarchical outline of the file that can be used for navigating large files. The center is the main display of the file for editing experimental variables and the right panel is for editing the protocol 'template'.

The workspace of the editor displays the complete protocol in the largest central panel. To the left, an outline of the protocol can be used for navigation and the panel on the right of the window is used for display and editing of parameter details. In order to make protocols appear more familiar to users, the central panel can be used to view the protocol in a 'Text View' or in a 'Tree View', see below. You can switch between the two views by using the tabs at the top of the page.

The **Text View** displays the title, description and parameters in a page layout.



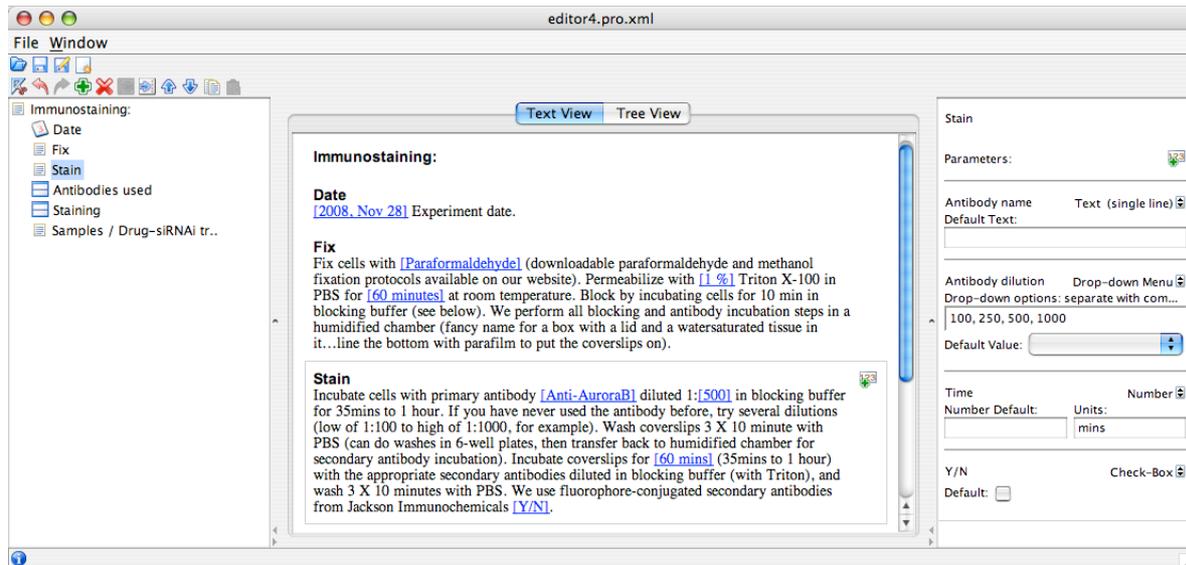
Protocols can also be viewed in the **Tree View**.



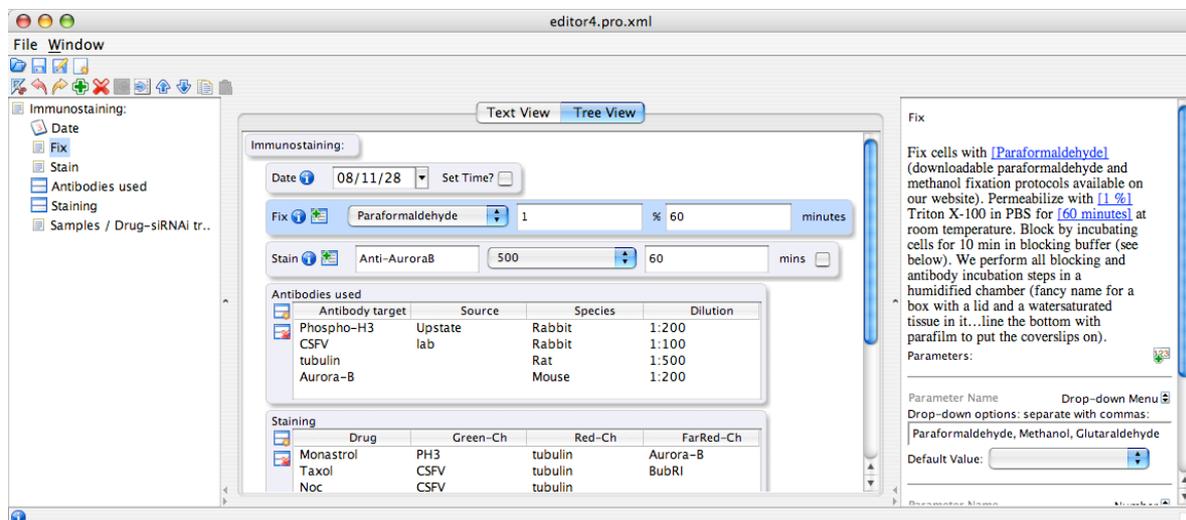
Multiple 'parameters' per step

In order to record a single step of a protocol that has multiple variables, e.g. "Incubate cells with {Antibody} at a dilution of {1:500} for {60 minutes}", OMERO.editor supports multiple parameters per step (see screenshots below). Placing parameters in context with descriptions also allows a more natural way of combining multiple parameters and removes the need to give every parameter a description.

In both cases, parameters can be seen in the context of the step description, which can be edited in the page layout of the Text view



or the right panel of the Tree view.

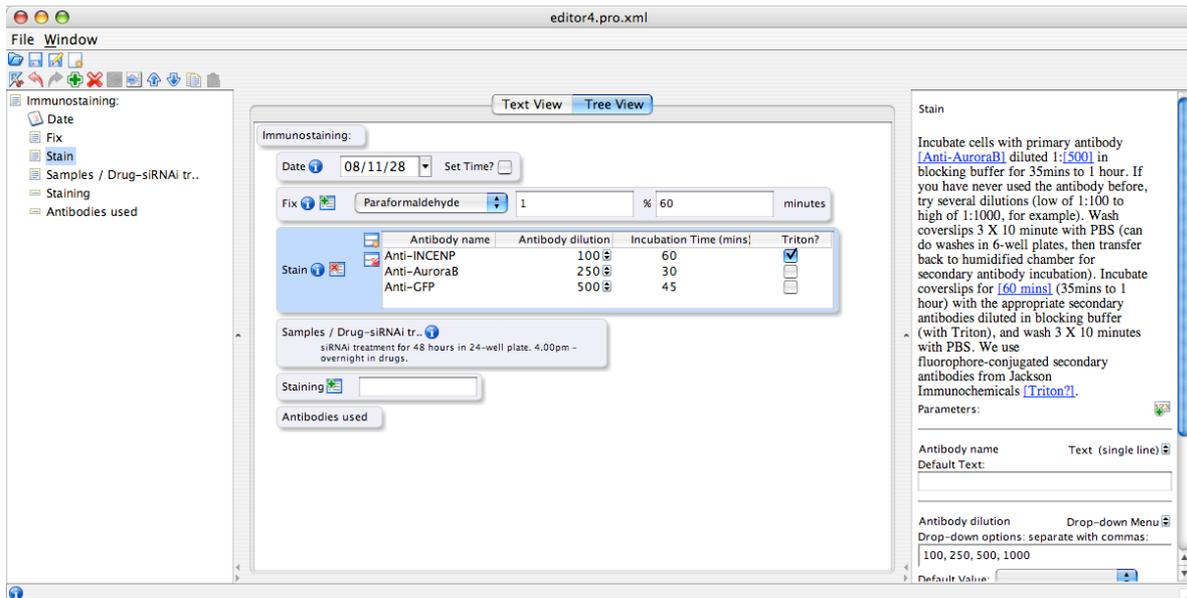


Parameters can be edited in the right panel of both views.

Table of parameter values

For some steps in a protocol, the parameters can have more than one value. In the above example, several antibodies may be used for staining different targets, and each one will have a different concentration and staining time. OMERO.editor supports the documenting of this data by allowing the values for each parameter to be displayed in a table (add table with the  icon in the Tree view).

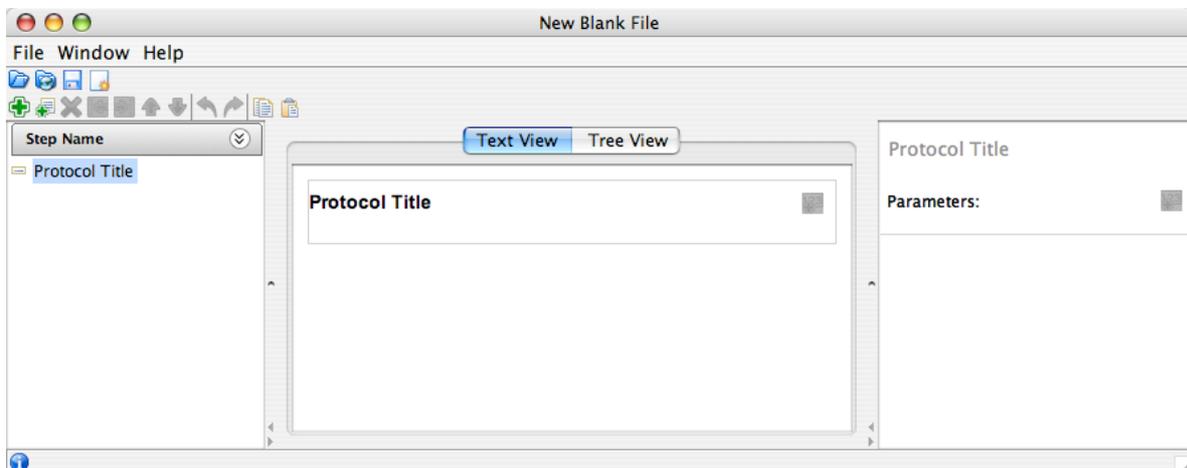
Each parameter is represented by a column, with the column name displaying the name of each parameter. 'Drop-down' and 'Check-box' parameters are represented with the appropriate controls in the table (see below).



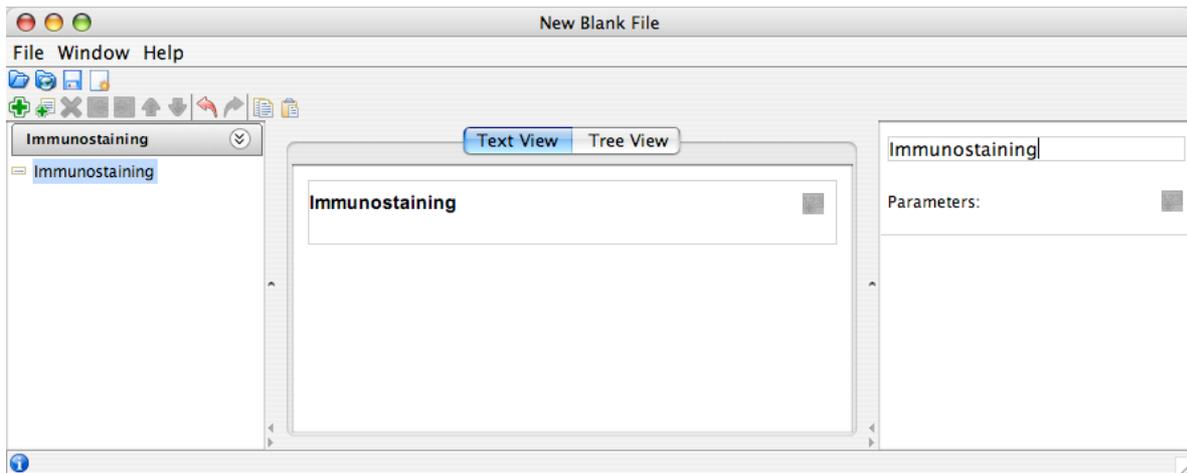
A number of example protocol files are available on-line, for demonstrating how you might record an experiment with OMERO.editor. To download and view these files, click on the 'www-folder' icon  in the tool-bar. This will present you with a dialog where you can choose from a selection of example files and open them in the Editor (not shown).

Start blank protocol

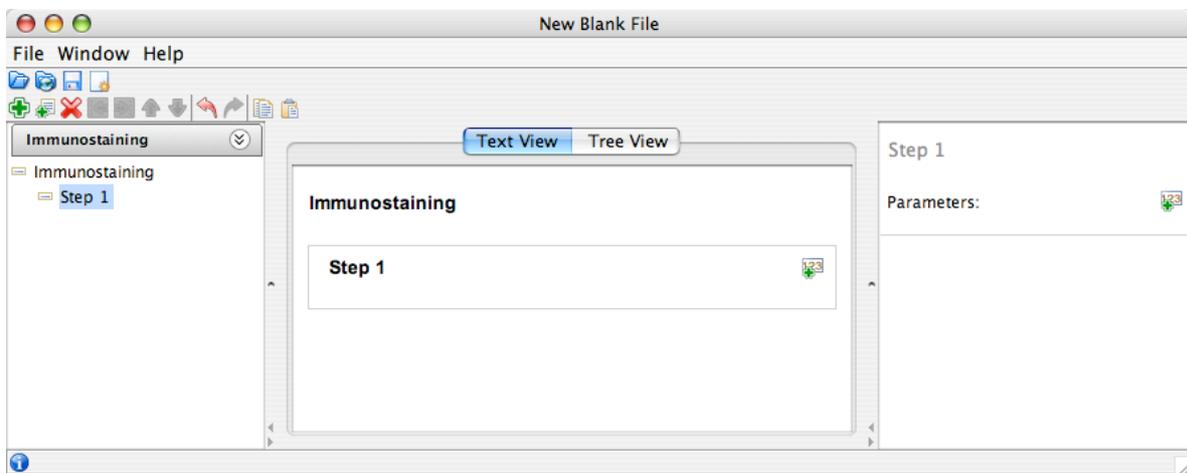
To start a blank protocol, click the  icon in the tool bar. The following screen will appear:



The first 'step' of the protocol has been added. This is the "Title Step" of the protocol and it's name can be edited in the top of the right panel.

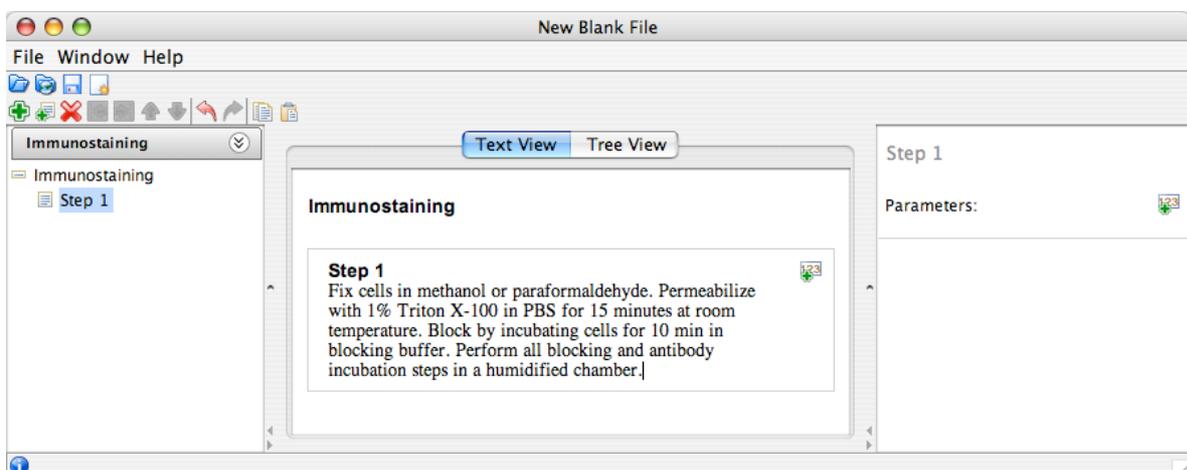


To add additional steps to the protocol, click the  icon in the tool bar. Steps will be added below the currently selected step.

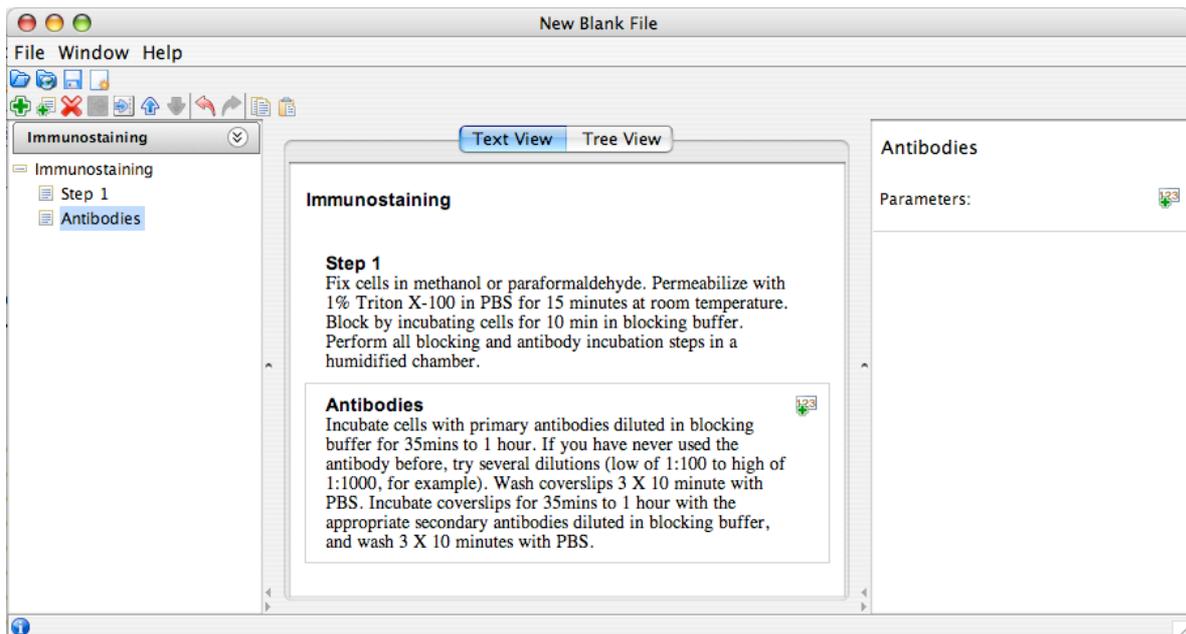


To add text to the step, simply type in the step in the center panel. The step can also be given a name by editing in the right panel as before.

In the example below, the text was copied, pasted and edited from a protocol available as a [PDF](http://www.lamondlab.com/pdf/fix&stain.pdf) (<http://www.lamondlab.com/pdf/fix&stain.pdf>) described [here](#). (<http://www.lamondlab.com/f7immunostainprotocol.htm>)

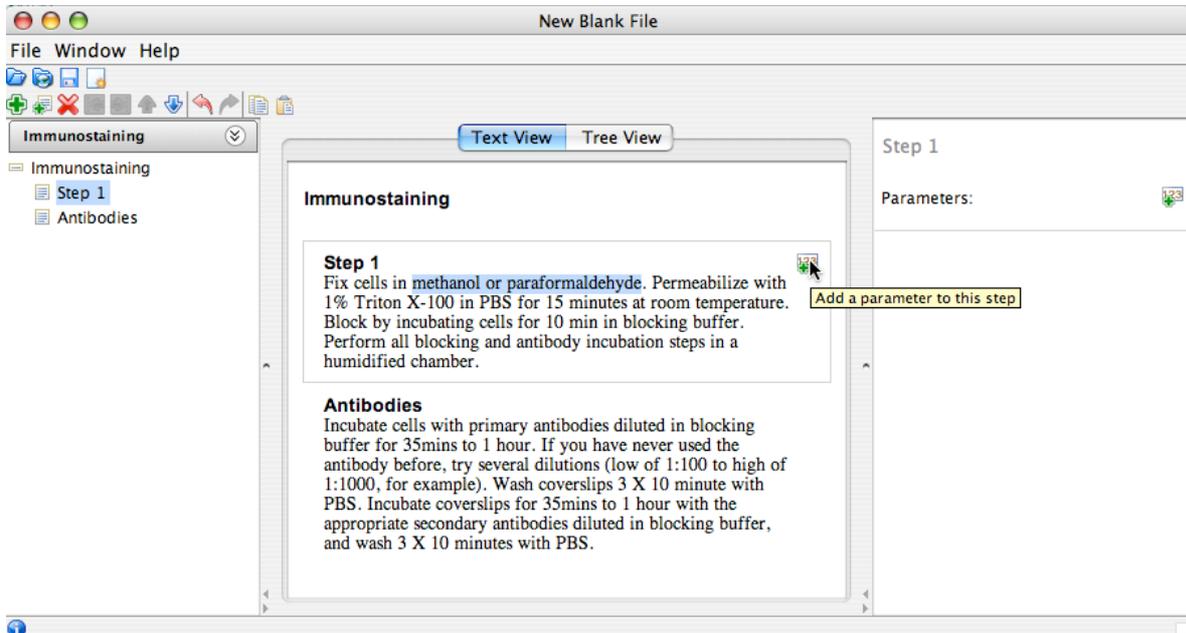


After adding another step, pasting some more text, and editing the name of the step, the file looks like this:

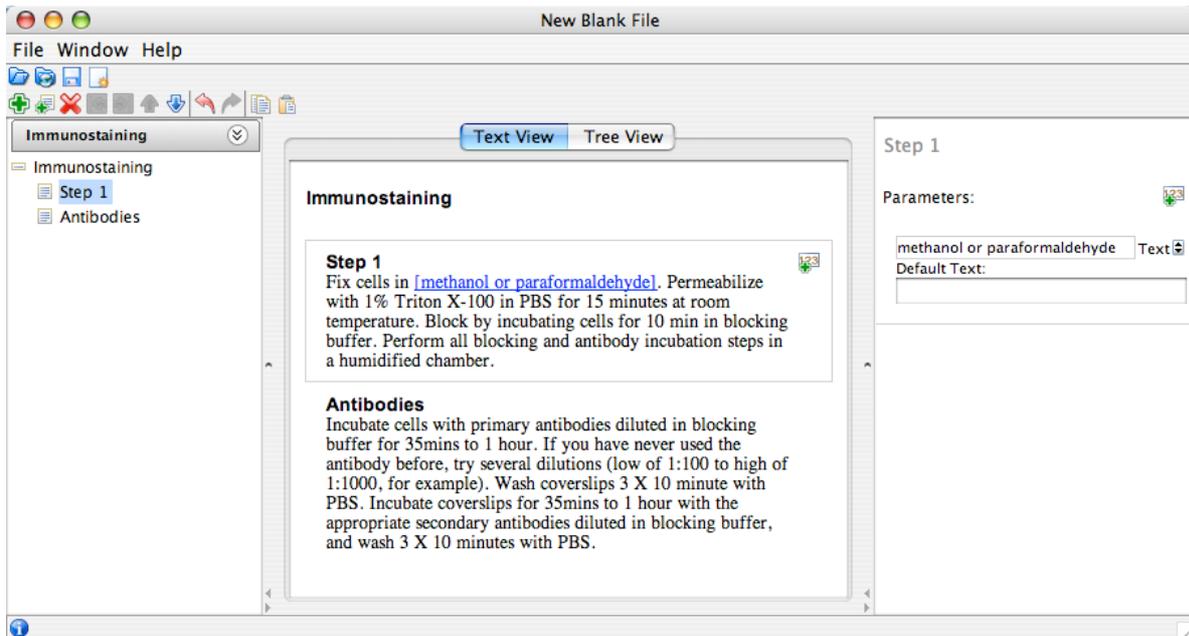


Now it's time to add parameters to this protocol. The “parameters” are variables in the protocol that change often and can be used to summarise the protocol.

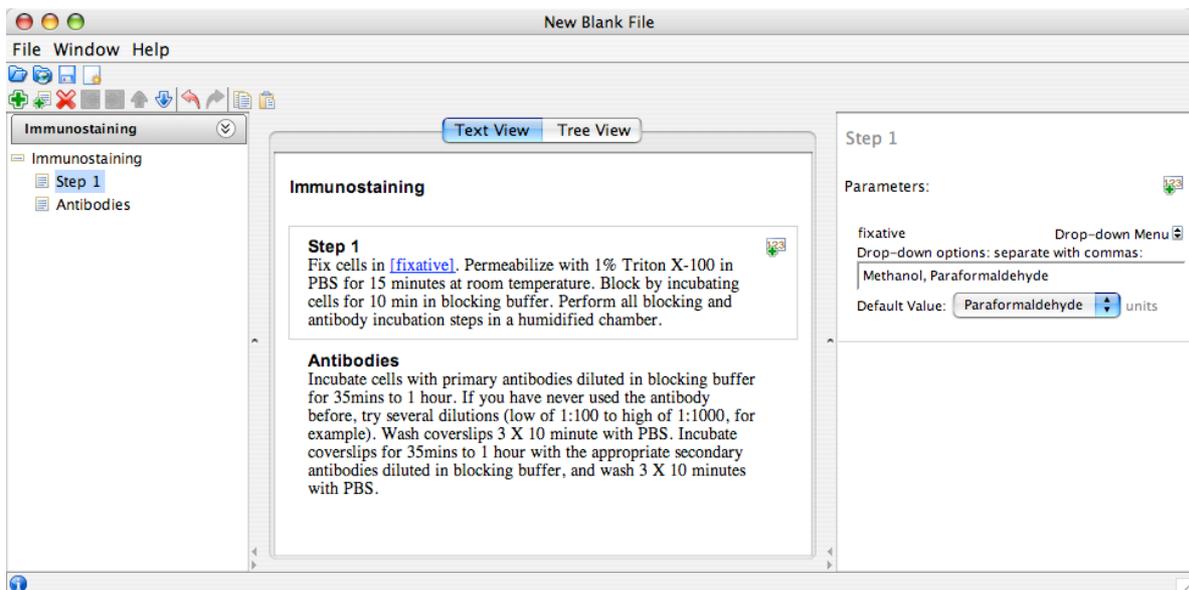
Parameters can be defined from existing text by highlighting the text, and clicking the “Add Parameter” icon  beside the text.



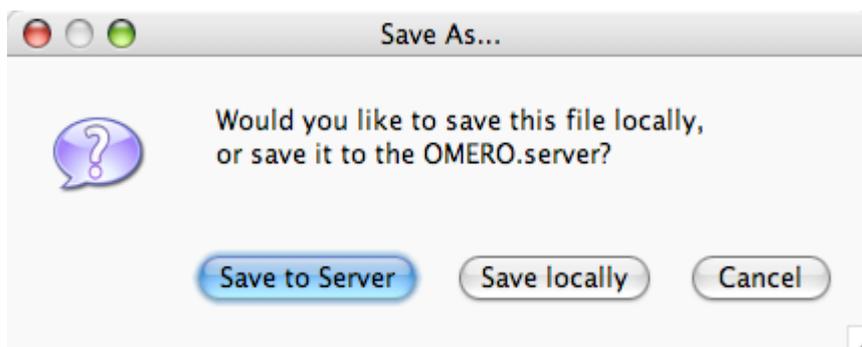
A parameter has been added in place of the highlighted text, and the parameter has been named using that text. The parameter name can be seen and edited in the panel to the right. It is also possible to set a default value and change the “type” of parameter here.



Next, change the name of the parameter to “fixative” and the type of parameter from “text” to “Drop-down menu” using the chooser in the right panel. Now enter some options for the parameter (separated by commas) e.g. “Methanol, Paraformaldehyde”. If you wish, you can now choose one of these options as a default value for this parameter.



Click “Save” to save the current file. If you are connected to the server, you will have a choice of saving the file to the server, or saving the file locally to your computer.



It is also possible to save any file as a new file to the server or locally using options in the File menu.

