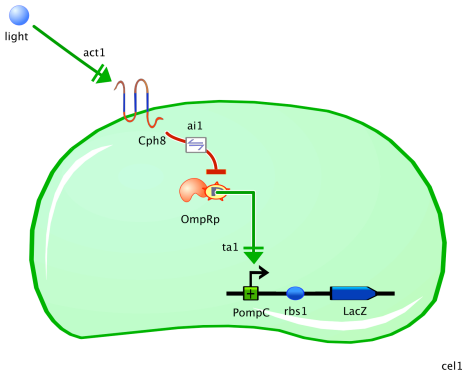


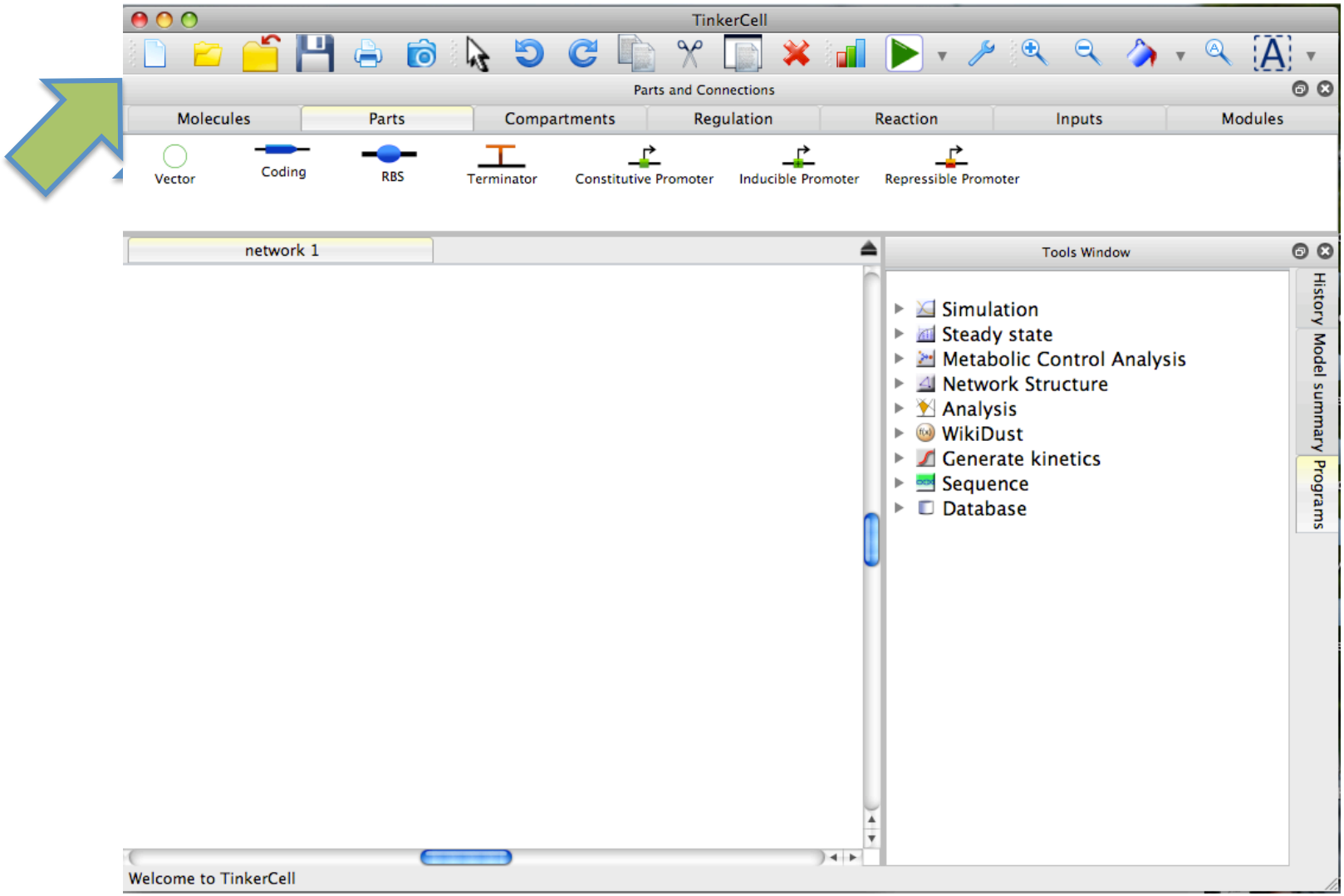

# TinkerCell Tutorial: the bacterial photography system

Thanks and appreciation to Deepak Chandra from U of W who developed Tinkercell and who modified it to teach the light detection system.

The light detection system itself was made by the 2006 Univ. Texas iGEM team

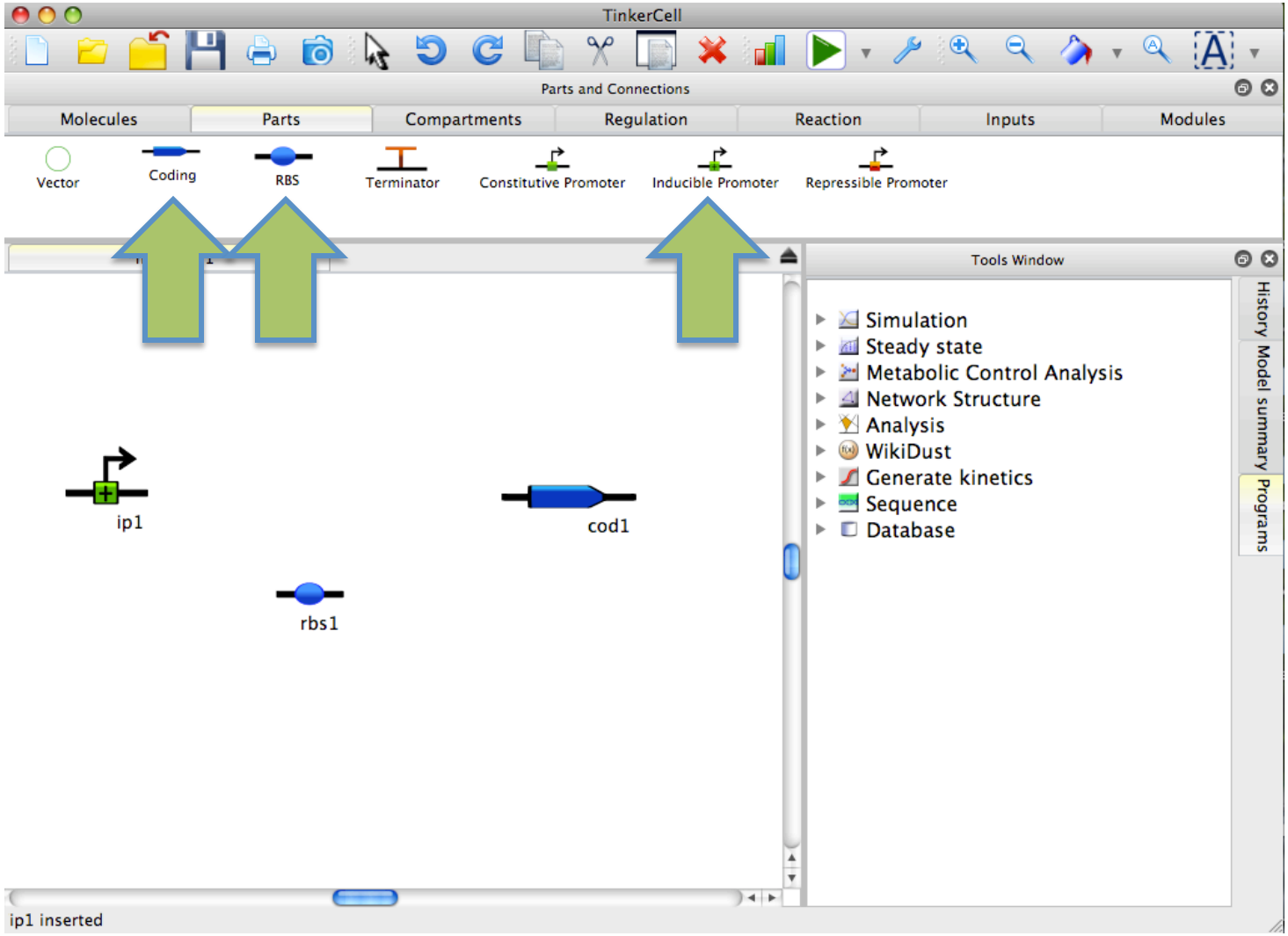
# Start a new canvas

**Select “New Canvas” from the File Menu or use the icon on the left at the top of the program**



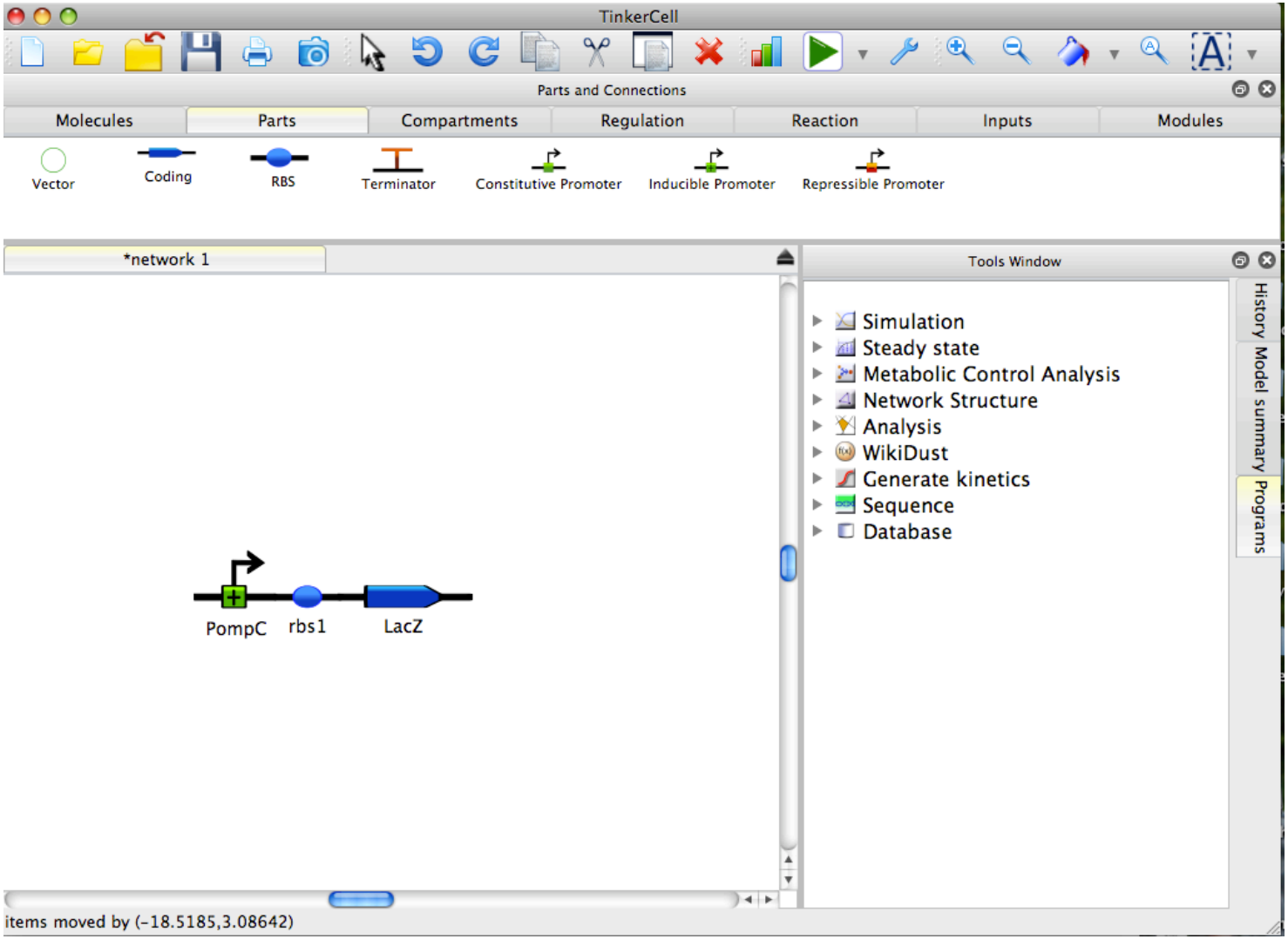
# Assemble Reporter

**From the "Parts" tab, select and place an "Inducible Promoter," an "RBS," and a "Coding" icon on the canvas**



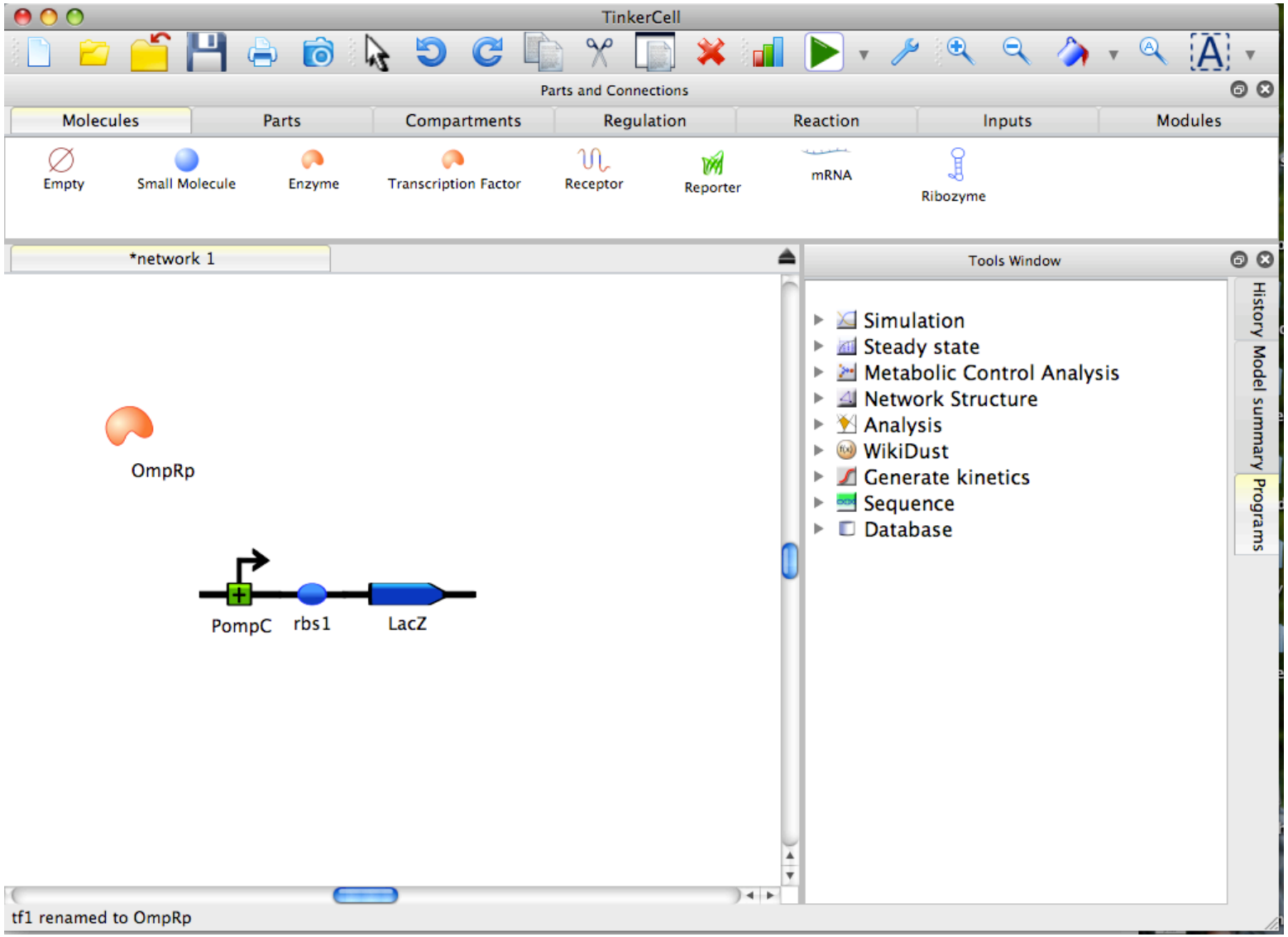
# Align and Name

**Drag items on the canvas next to one another to align them. Rename the promoter and coding sequence.**



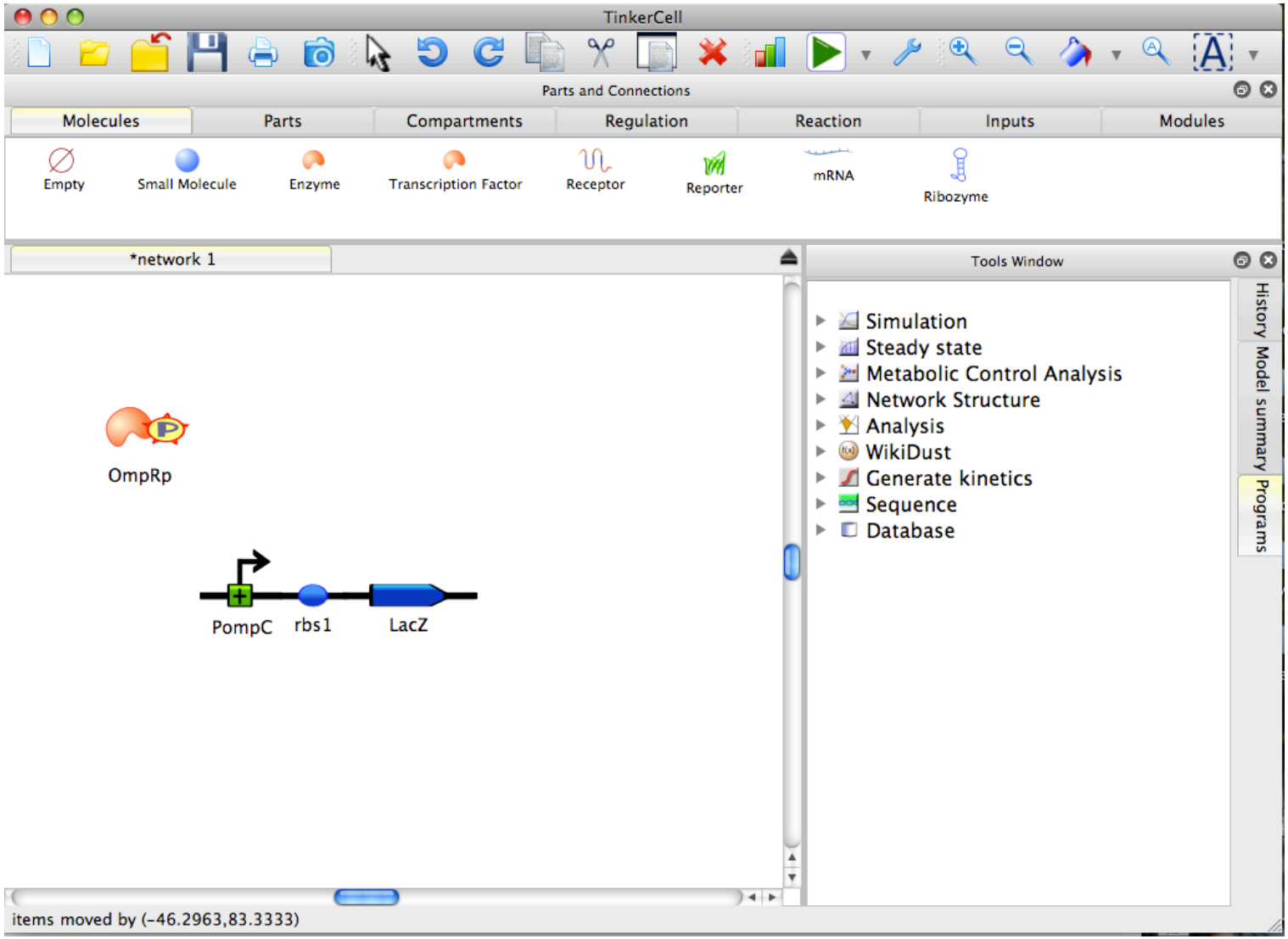
# Add a transcription factor

**From the "Molecules" tab, add a transcription factor to the canvas and rename it OmpRp**



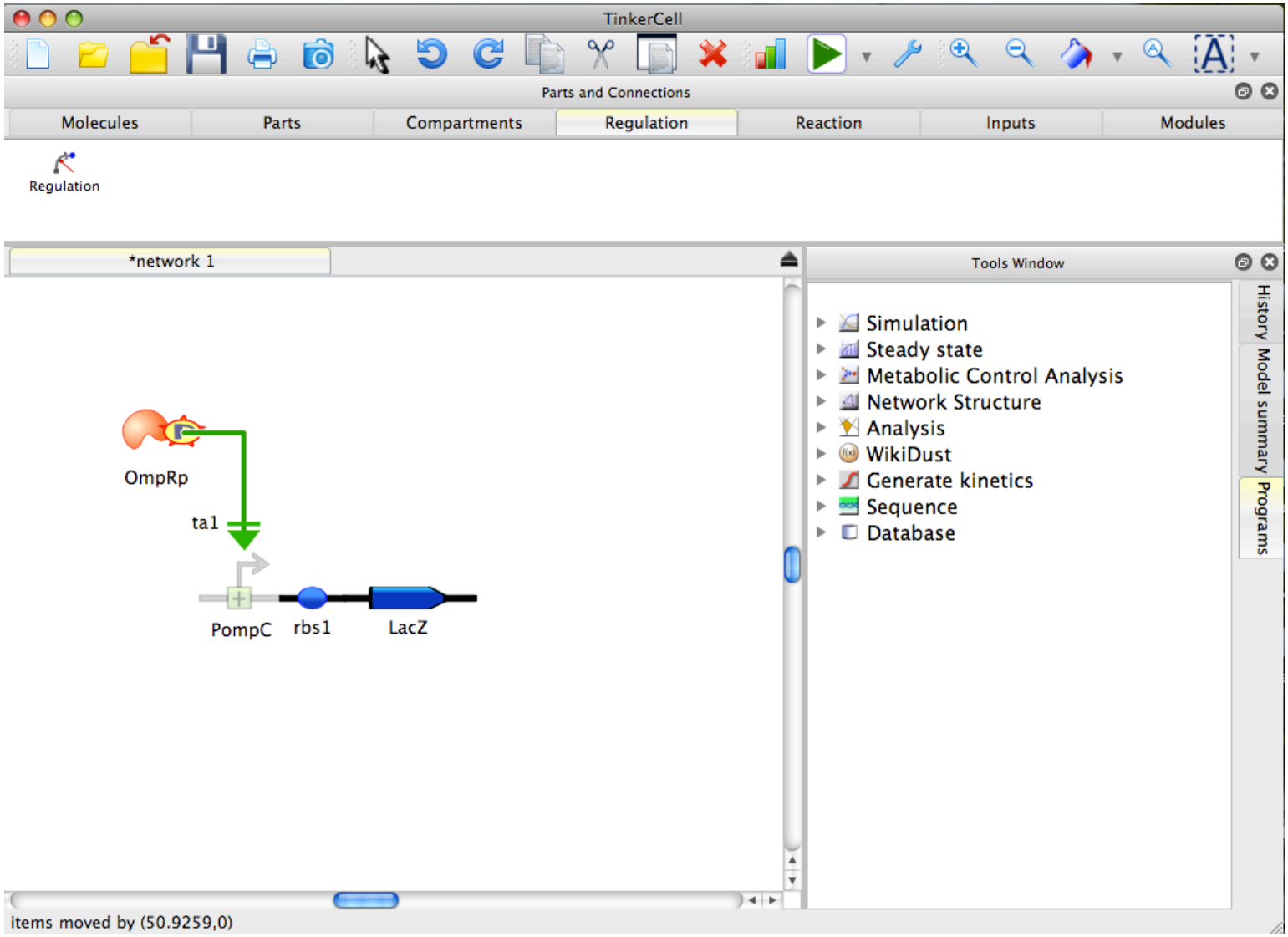
# Visual Appeal: add a “P”

**Select OmpRp then from the “Edit” menu, add decorator. Select phosphorylation and resize the icon.**



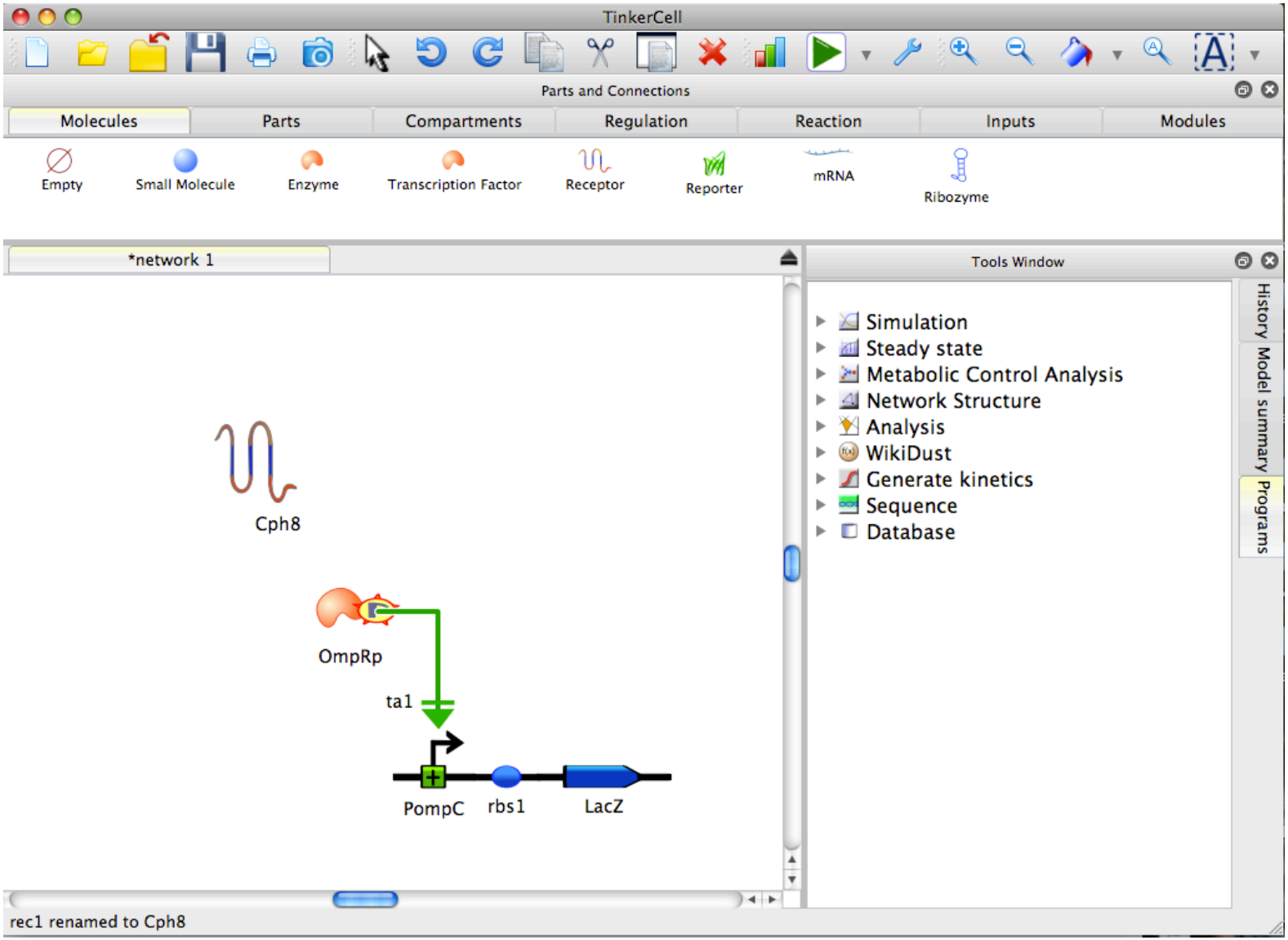
# Regulate transcription

**From the "Regulation" tab, choose "Regulation" then click the icons for OmpRp and PompC. Choose transcriptional activation from the pop-up**



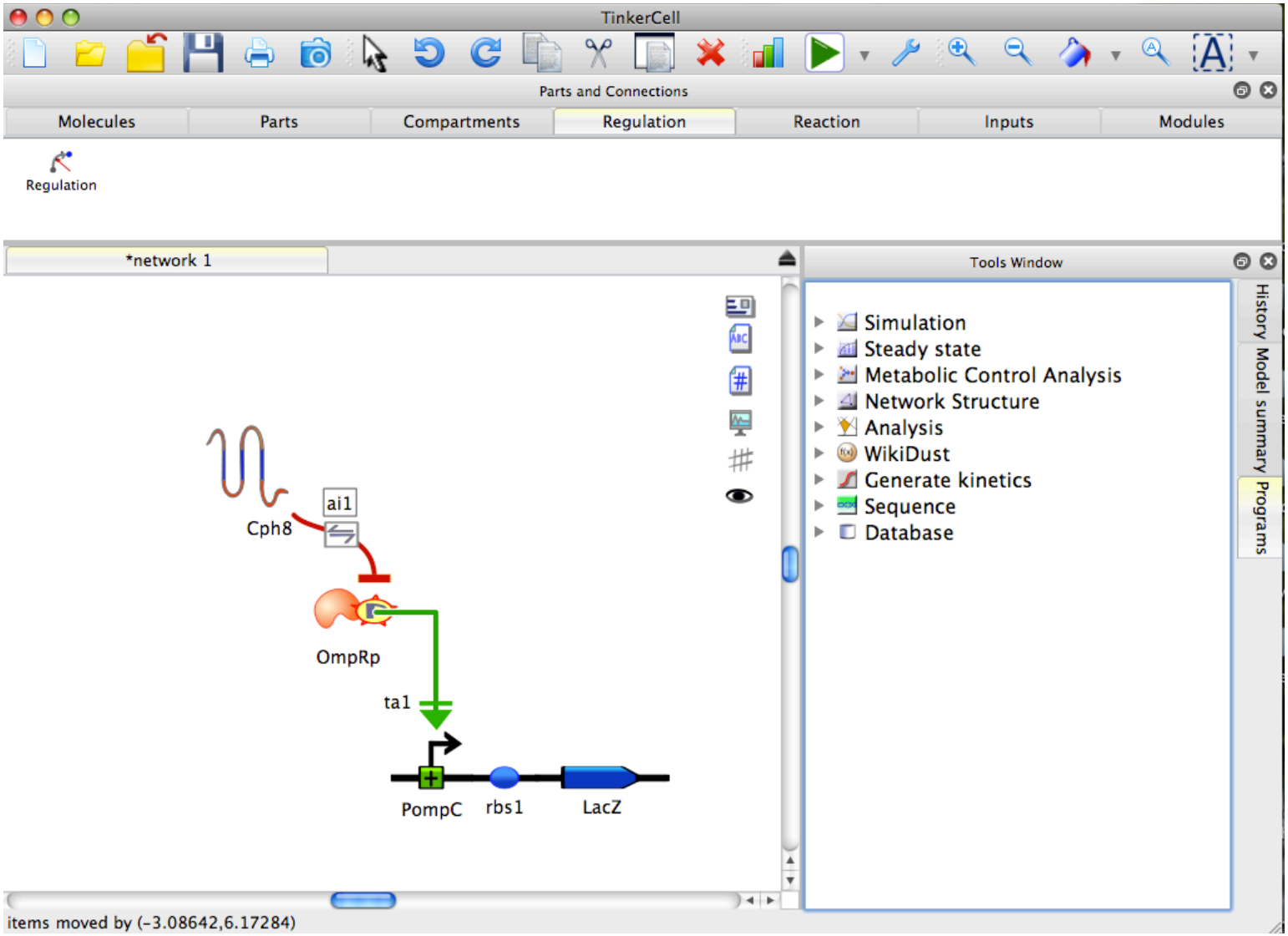
# Add light receptor

**From the "Molecules" tab, choose "Receptor" to print to the canvas. Rename it Cph8.**



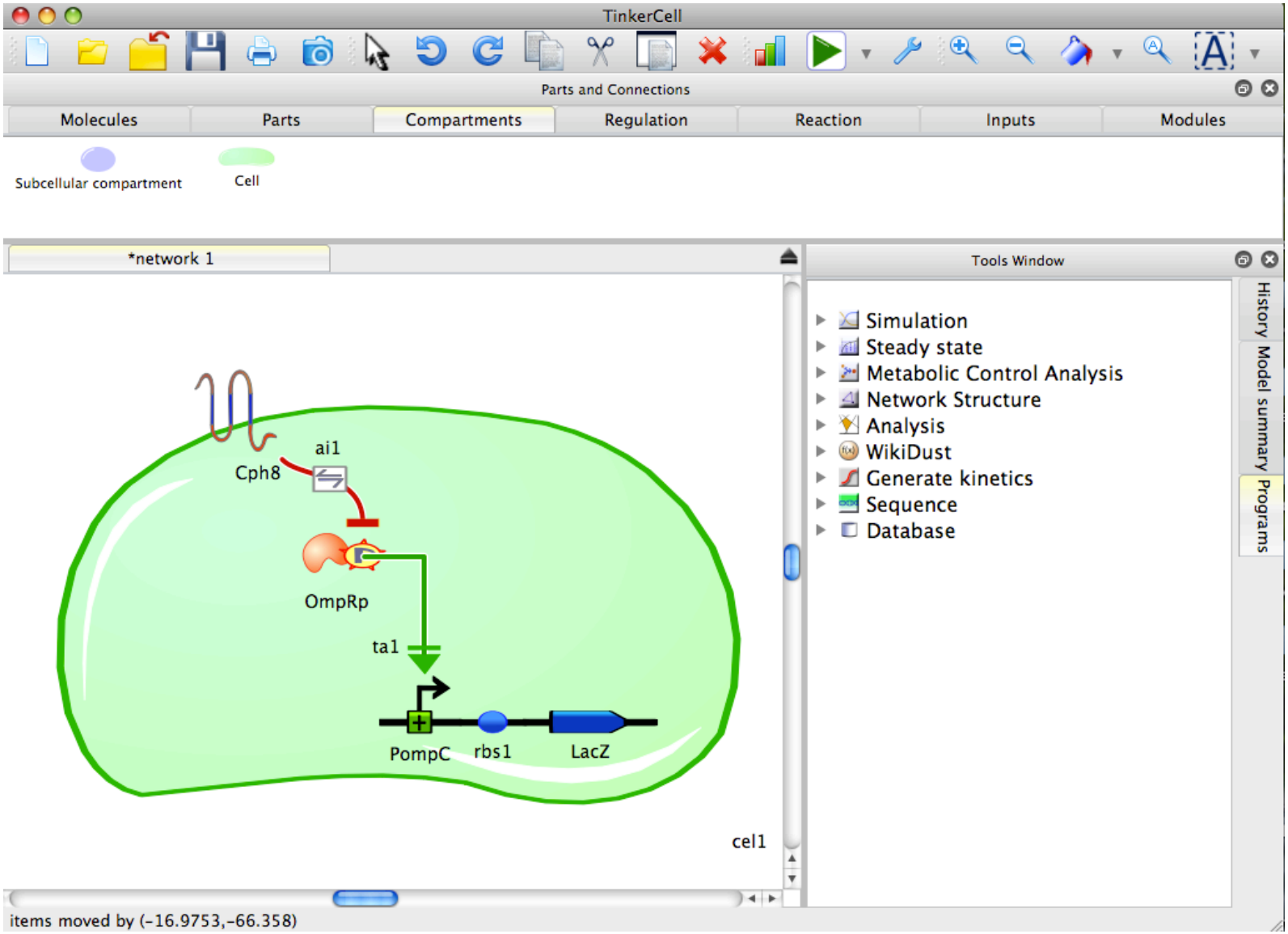
# Regulate OmpRp with Cph8

**From the "Regulation" tab, choose "Regulation" then select Cph8 and OmpRp. Connect them with "Allosteric Inhibition" from the popup menu.**



# Add a chassis

**From the "Compartments" tab, choose "Cell" then place and resize on the canvas**



# Add light!

**From the "Molecules" tab, choose "Small Molecule" then place it on the canvas outside the cell. Rename it "light" and regulate Cph8 with an "Activation" reaction**