

# Sub-cellular localization in a cell

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“To visualize biological cells and highlight by a user selected sub-cellular compartments in a way that they stand out from the un-selected ones”

- Use cases
  - Case 1 : One protein, one localization
  - Case 2 : One protein, multiple localizations
  - Case 3 : Multiple proteins, multiple localizations
- Libraries
  - D3 Data-Driven Documents
- Data
  - Input file format

Eukaryota				
0-100				
Protein id	Score	Localization	Additional column 1	Additional column 2
sp P34795 G6PI_AR ATH	100	cytoplasm		
sp O24621 SIGC_A RATH	30	chloroplast		

- Identification of all cell compartments using GIMP image editor
- Calculation of number of proteins in each cell's compartment
- Each compartment highlighted using a localization color scale
- Tooltip displayed upon "mouse over" over cell's compartment
- Cell image updated on clicking of protein in tooltip
- Cell compartments highlighted using a score color scale

# Live demo

## ■ Lessons Learned

- Knowledge in Javascript functions
- Usage of tools such as
  - GIMP
  - Photoshop
  - Image generator - <http://imagemap-generator.dariodomi.de/>
  - Github
- Team work

## ■ Challenges

- Highlighting cell's compartments
- Mixing statistics with fancy colors dynamically
- Time management

Thank you for your attention  
Q&A