

BioJS @ Biohackathon Paris 2018



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What is BioJS?

A suite of
Javascript-based
re-usable biological
tools

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- **Searchable registry**
 - “Show me a tool for protein structure visualisation”
- **Browser based visualisations**
 - All data on client side
- **Online registry of existing components**
 - Also incorporates BioNode (i.e. non-visual data processing tools)
- **Off-the shelf widgets**
 - Not a toolbox/development library like e.g. D3.js
- **New website published this summer**
 - GSoC project rebuilt the website and server
 - Some loose ends

Some of the tools

Visit biojs.net to view the full searchable registry

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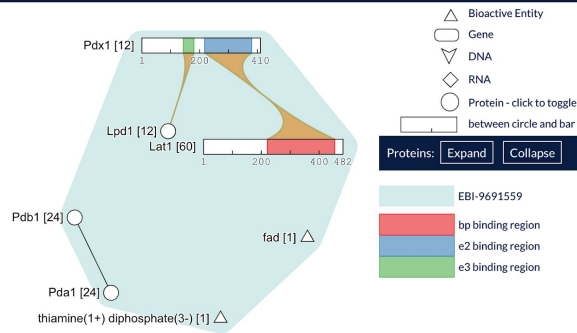
ComplexViewer: visualization of curated macromolecular complexes

Choose Example:

Mitochondrial pyruvate dehydrogenase cc

[EBI-9691559 - View on ComplexPortal](#)

Properties: Pyruvate dehydrogenase consists of five subunits that are assembled into a huge heteromultimer of 8-9 megadaltons. The core is comprised of 60 copies of Lat1 (also known as E2; dihydrolipoamide acyltransferase) that form a pentagonal dodecahedron. Twelve copies of Lpd1 (also known as E3; dihydrolipoamide dehydrogenase) are attached to the Lat1p core via the binding protein Pdx1. A variable number of Pda1 and Pdb1 (also known as E1 alpha and E1 beta, respectively) subunits bind as heterotetramers to the Lat1 core. In the reaction mediated by the PDH complex, pyruvate becomes covalently linked to the thiamine diphosphate (TPP) cofactor of E1 (Pda1 and Pdb1), creating 2-alpha-hydroxy-



Annotations:

Visualize

bio-pv

WebGL protein viewer

Author: Marco Biasini

Tags: [biojs](#) [protein](#) [3d](#) [webgl](#)

Browse all components

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How YOU can help us!

We have funky stickers for contributors!



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- **Galaxy admins / developers**
 - Investigate/implement improved Galaxy & BioJS integration
 - Other integrations welcome
- **Javascript/API/Web devs**
 - Improvements to the example visualisations on the new site
- **People with Jekyll and/or Ruby experience**
 - We have a BioJS training site we'd like to resurrect!
- **Designers, data vis & JS developers**
 - Mock up or implement new biological components
 - Any ideas for visualisation welcome too

Hackathon Goals

Three days of hacking

- **Galaxy Integration**
 - Prototype integration for 1 component
 - Plan to move forward on the future
- **BioJS Website**
 - Fix visualisation/rendering of example snippets
 - Moving away from old infrastructure
- **Revived Training Site**
 - Up and running education/training site re-using existing and possibly updated content.
- **New Components**
 - Ideas/Mockups/Prototypes for new components

Project Leads



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