Resource Summary Report

Generated by RRID on May 23, 2025

V3D

RRID:SCR_008646
Type: Tool

Proper Citation

V3D (RRID:SCR_008646)

Resource Information

URL: http://penglab.janelia.org/proj/v3d/V3D/About_V3D.html

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Description: V3D is a handy, fast, and versatile 3D/4D/5D Image Visualization & Analysis System for Bioimages & Surface Objects. It also provides many unique functions, is Open Source, supports a very simple and powerful plugin interface and thus can be extended & enhanced easily. V3D-Neuron is a powerful 3D neuron reconstruction, visualization, and editing software built on top of V3D. Both V3D and V3D-Neuron have recently been published in Nature Biotechnology (April, 2010), and Highlighted in Nature Methods (May, 2010), and Science News (April, 2010), etc. V3D is a cross-platform (Mac, Linux, and Windows) tool for visualizing large-scale (gigabytes, and 64-bit data) 3D image stacks and various surface data. It is also a container of powerful modules for 3D image analysis (cell segmentation, neuron tracing, brain registration, annotation, quantitative measurement and statistics, etc) and data management. This makes V3D suitable for various bioimage informatics applications, and a nice platform to develop new 3D image analysis algorithms for high-throughput processing. In short, V3D streamlines the workflow of visualization-assisted analysis. In the latest V3D development, it can render 5D (spatial-temporal) data directly in 3D volume-rendering mode; it supports convenient and interactive local and global 3D views at different scales. It even has a Matlab file IO toolbox. A user can now write his/her own plugins to take advantage of the V3D platform very easily.

Abbreviations: V3D

Synonyms: V3D: A Swiss army knife for bioimage visualization & analysis

Resource Type: data visualization software, image analysis software, segmentation software, software resource, d visualization software, software application, data processing software

Defining Citation: PMID:20231818

Keywords: 3d, annotation, bioimage, brain, cell, development, informatics, neuron, registration, segmentation, software, tracing, visual, visualization, image

Funding: Howard Hughes Medical Institute

Resource Name: V3D

Resource ID: SCR_008646

Alternate IDs: nif-0000-32975

Record Creation Time: 20220129T080248+0000

Record Last Update: 20250522T060510+0000

Ratings and Alerts

No rating or validation information has been found for V3D.

No alerts have been found for V3D.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 3 mentions in open access literature.

Listed below are recent publications. The full list is available at RRID.

Hendrickson ML, et al. (2018) Nestin expression and in vivo proliferative potential of tanycytes and ependymal cells lining the walls of the third ventricle in the adult rat brain. The European journal of neuroscience, 47(4), 284.

Li F, et al. (2013) Chapter 17: bioimage informatics for systems pharmacology. PLoS computational biology, 9(4), e1003043.

Xiao H, et al. (2011) Ct3d: tracking microglia motility in 3D using a novel cosegmentation approach. Bioinformatics (Oxford, England), 27(4), 564.