

# Resource Summary Report

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## ViBE-Z

RRID:SCR\_005895

Type: Tool

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### Proper Citation

ViBE-Z (RRID:SCR\_005895)

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### Resource Information

**URL:** <http://vibez.informatik.uni-freiburg.de/>

**Proper Citation:** ViBE-Z (RRID:SCR\_005895)

**Description:** An imaging and image analysis framework for virtual colocalization studies in larval zebrafish brains, currently available for 72hpf, 48hpf and 96hpf old larvae. ViBE-Z contains a database with precisely aligned gene expression patterns (1000µm<sup>3</sup> resolution), an anatomical atlas, and a software. This software creates high-quality data sets by fusing multiple confocal microscopic image stacks, and aligns these data sets to the standard larva. The ViBE-Z database and atlas are stored in HDF5 file format. They are freely available for download. ViBE-Z provides a software that automatically maps gene expression data with cellular resolution to a 3D standard larval zebrafish (*Danio rerio*) brain. ViBE-Z enhances the data quality through fusion and attenuation correction of multiple confocal microscope stacks per specimen and uses a fluorescent stain of cell nuclei for image registration. It automatically detects 14 predefined anatomical landmarks for aligning new data with the reference brain. ViBE-Z performs colocalization analysis in expression databases for anatomical domains or subdomains defined by any specific pattern. The ViBE-Z database, atlas and software are provided via a web interface.

**Abbreviations:** ViBE-Z

**Synonyms:** Virtual Brain Explorer for Zebrafish, Virtual Brain Explorer, ViBE-Z: The Virtual Brain Explorer for Zebrafish

**Resource Type:** software application, data or information resource, database, data processing software, software resource, atlas, image processing software

**Defining Citation:** [PMID:22706672](#)

**Keywords:** brain, larval zebrafish, gene expression, confocal microscopy

**Funding:** Excellence Initiative of the German Federal and State Governments ; European Union

**Resource Name:** ViBE-Z

**Resource ID:** SCR\_005895

**Alternate IDs:** nlx\_149465

**Record Creation Time:** 20220129T080233+0000

**Record Last Update:** 20260729T044129+0000

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## Ratings and Alerts

No rating or validation information has been found for ViBE-Z.

No alerts have been found for ViBE-Z.

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## Data and Source Information

**Source:** [SciCrunch Registry](#)

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## Usage and Citation Metrics

We found 4 mentions in open access literature.

**Listed below are recent publications.** The full list is available at [nidm-terms](#).

Ding Y, et al. (2019) Computational 3D histological phenotyping of whole zebrafish by X-ray histotomography. eLife, 8.

Allalou A, et al. (2017) Automated deep-phenotyping of the vertebrate brain. eLife, 6.

Maximino C, et al. (2015) Non-mammalian models in behavioral neuroscience: consequences for biological psychiatry. Frontiers in behavioral neuroscience, 9, 233.

Arrenberg AB, et al. (2013) Integrating anatomy and function for zebrafish circuit analysis. Frontiers in neural circuits, 7, 74.