

Resource Summary Report

Generated by T1D on Aug 1, 2026

BrainWeb - Simulated Brain Database

RRID:SCR_003263

Type: Tool

Proper Citation

BrainWeb - Simulated Brain Database (RRID:SCR_003263)

Resource Information

URL: <http://www.bic.mni.mcgill.ca/brainweb/>

Proper Citation: BrainWeb - Simulated Brain Database (RRID:SCR_003263)

Description: Database of human brain images derived from a realistic phantom and generated using a sophisticated MRI simulator. Custom simulations may be generated to match a user's selected parameters. The goal is to aid validation of computer-aided quantitative analysis of medical image data. The SBD contains a set of realistic MRI data volumes produced by an MRI simulator. These data can be used by the neuroimaging community to evaluate the performance of various image analysis methods in a setting where the truth is known. The SBD contains simulated brain MRI data based on two anatomical models: normal and multiple sclerosis (MS). For both of these, full 3-dimensional data volumes have been simulated using three sequences (T1-, T2-, and proton-density- (PD-) weighted) and a variety of slice thicknesses, noise levels, and levels of intensity non-uniformity. These data are available for viewing in three orthogonal views (transversal, sagittal, and coronal), and for downloading.

Synonyms: BrainWeb, BainWeb SBD, BrainWeb Simulated Brain Database

Resource Type: atlas, data or information resource, database

Defining Citation: [PMID:16750398](#)

Keywords: human brain, human brain image, human brain database, mri simulation, brain imaging

Availability: Free, Freely available

Resource Name: BrainWeb - Simulated Brain Database

Resource ID: SCR_003263

Alternate IDs: nif-0000-00020

Record Creation Time: 20220129T080218+0000

Record Last Update: 20260801T042531+0000

Ratings and Alerts

No rating or validation information has been found for BrainWeb - Simulated Brain Database.

No alerts have been found for BrainWeb - Simulated Brain Database.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 76 mentions in open access literature.

Listed below are recent publications. The full list is available at [T1D](#).

Hardy SM, et al. (2023) Modulation in alpha band activity reflects syntax composition: an MEG study of minimal syntactic binding. *Cerebral cortex* (New York, N.Y. : 1991), 33(3), 497.

Kumazawa S, et al. (2022) Estimation of undistorted images in brain echo-planar images with distortions using the conjugate gradient method with anatomical regularization. *Medical physics*, 49(12), 7531.

Cabeza-Ruiz R, et al. (2022) Convolutional Neural Networks for Segmenting Cerebellar Fissures from Magnetic Resonance Imaging. *Sensors* (Basel, Switzerland), 22(4).

Mauriello C, et al. (2022) Dysfunctional temporal stages of eye-gaze perception in adults with ADHD: A high-density EEG study. *Biological psychology*, 171, 108351.

Ruby P, et al. (2021) Dynamics of hippocampus and orbitofrontal cortex activity during arousing reactions from sleep: An intracranial electroencephalographic study. *Human brain mapping*, 42(16), 5188.

Chen HM, et al. (2021) Comparison of Multispectral Image-Processing Methods for Brain Tissue Classification in BrainWeb Synthetic Data and Real MR Images. *BioMed research international*, 2021, 9820145.

de Vega M, et al. (2021) Crossing hands behind your back reduces recall of manual action sentences and alters brain dynamics. *Cortex; a journal devoted to the study of the nervous system and behavior*, 140, 51.

Drobnjak I, et al. (2021) Physical and digital phantoms for validating tractography and assessing artifacts. *NeuroImage*, 245, 118704.

Perizzolo Pointet VC, et al. (2020) Violence Exposure Is Associated With Atypical Appraisal of Threat Among Women: An EEG Study. *Frontiers in psychology*, 11, 576852.

Donno B, et al. (2020) The impact of body posture on intrinsic brain activity: The role of beta power at rest. *PloS one*, 15(1), e0218977.

Miao Y, et al. (2020) Logarithmic Fuzzy Entropy Function for Similarity Measurement in Multimodal Medical Images Registration. *Computational and mathematical methods in medicine*, 2020, 5487168.

Huang B, et al. (2020) A Review of Multimodal Medical Image Fusion Techniques. *Computational and mathematical methods in medicine*, 2020, 8279342.

Wang C, et al. (2018) The same modality medical image registration with large deformation and clinical application based on adaptive diffeomorphic multi-resolution demons. *BMC medical imaging*, 18(1), 21.

Van Ackeren MJ, et al. (2018) Neuronal populations in the occipital cortex of the blind synchronize to the temporal dynamics of speech. *eLife*, 7.

Jain S, et al. (2017) Patch-Based Super-Resolution of MR Spectroscopic Images: Application to Multiple Sclerosis. *Frontiers in neuroscience*, 11, 13.

Berchio C, et al. (2017) Dysfunctional gaze processing in bipolar disorder. *NeuroImage. Clinical*, 16, 545.

Ji Z, et al. (2017) A Rough Set Bounded Spatially Constrained Asymmetric Gaussian Mixture Model for Image Segmentation. *PloS one*, 12(1), e0168449.

Lee G, et al. (2016) Adaptive Dimensionality Reduction with Semi-Supervision (AddReSS): Classifying Multi-Attribute Biomedical Data. *PloS one*, 11(7), e0159088.

Frey JN, et al. (2016) The Tactile Window to Consciousness is Characterized by Frequency-Specific Integration and Segregation of the Primary Somatosensory Cortex. *Scientific reports*, 6, 20805.

Yazdani S, et al. (2016) Automatic Region-Based Brain Classification of MRI-T1 Data. *PloS one*, 11(4), e0151326.