Resource Summary Report

Generated by kravitz2 on Sep 5, 2026

BigBrain

RRID:SCR_001593
Type: Tool

Proper Citation

BigBrain (RRID:SCR_001593)

Resource Information

URL: https://ftp.bigbrainproject.org/

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Description: Ultrahigh resolution 3D human brain model at nearly cellular resolution of 20 micrometers, based on reconstruction of histological sections. Provides considerable neuroanatomical insight into human brain, thereby allowing extraction of microscopic data for modeling and simulation. Enables testing of hypotheses on optimal path lengths between interconnected cortical regions or on spatial organization of genetic patterning, redefining traditional neuroanatomy maps such as those of Brodmann and von Economo.

Synonyms: BigBrain Database, BigBrain: An ultrahigh-resolution 3D human brain model, BigBrain LORIS Database, BigBrain Project

Resource Type: data or information resource, database, dynamic model, model

Defining Citation: PMID:23788795

Keywords: human brain, neuroanatomy, cortical region, model, 3d spatial image, histology

Funding: Healthy Brains ;
Healthy Lives - McGill University ;
Helmholtz Association ;
Germany

Availability: Free, Freely available

Resource Name: BigBrain

Resource ID: SCR_001593

Alternate IDs: nlx_153840, r3d100013950

Alternate URLs: https://bigbrainproject.org, https://doi.org/10.17616/R31NJN9A

Record Creation Time: 20220129T080208+0000

Record Last Update: 20260903T234444+0000

Ratings and Alerts

No rating or validation information has been found for BigBrain.

No alerts have been found for BigBrain.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 35 mentions in open access literature.

Listed below are recent publications. The full list is available at kravitz2 .

Brandstetter A, et al. (2026) Organization, fine structure, and stereotaxic maps of the human Bed nucleus of the Stria terminalis. Imaging neuroscience (Cambridge, Mass.), 4.

Kuckertz A, et al. (2025) Serotonin Receptors in Areas of the Emotion Regulation Network in Human and Rat Brains-A Comparative Autoradiographic Study. The Journal of comparative neurology, 533(7), e70068.

Shamir I, et al. (2024) Clustering the cortical laminae: in vivo parcellation. Brain structure & function, 229(2), 443.

Wan B, et al. (2024) Microstructural asymmetry in the human cortex. Nature communications, 15(1), 10124.

Saberi A, et al. (2023) The regional variation of laminar thickness in the human isocortex is related to cortical hierarchy and interregional connectivity. PLoS biology, 21(11), e3002365.

Larivière S, et al. (2023) BrainStat: A toolbox for brain-wide statistics and multimodal feature associations. NeuroImage, 266, 119807.

Heuer K, et al. (2023) Diversity and evolution of cerebellar folding in mammals. eLife, 12.

Bazinet V, et al. (2023) Assortative mixing in micro-architecturally annotated brain connectomes. Nature communications, 14(1), 2850.

Wang Y, et al. (2023) Long-range functional connections mirror and link microarchitectural and cognitive hierarchies in the human brain. Cerebral cortex (New York, N.Y. : 1991), 33(5), 1782.

Amunts K, et al. (2022) Linking Brain Structure, Activity, and Cognitive Function through Computation. eNeuro, 9(2).

Stenger S, et al. (2022) Cytoarchitectonic parcellation and functional characterization of four new areas in the caudal parahippocampal cortex. Brain structure & function, 227(4), 1439.

Kiwitz K, et al. (2022) Cytoarchitectonic Maps of the Human Metathalamus in 3D Space. Frontiers in neuroanatomy, 16, 837485.

Paquola C, et al. (2022) Closing the mechanistic gap: the value of microarchitecture in understanding cognitive networks. Trends in cognitive sciences, 26(10), 873.

Park BY, et al. (2022) Multiscale neural gradients reflect transdiagnostic effects of major psychiatric conditions on cortical morphology. Communications biology, 5(1), 1024.

Wang Y, et al. (2022) Inconsistencies in atlas-based volumetric measures of the human nucleus basalis of Meynert: A need for high-resolution alternatives. NeuroImage, 259, 119421.

Upschulte E, et al. (2022) Contour proposal networks for biomedical instance segmentation. Medical image analysis, 77, 102371.

Sikimi? V, et al. (2022) Machine learning in scientific grant review: algorithmically predicting project efficiency in high energy physics. European journal for philosophy of science, 12(3), 50.

Vos de Wael R, et al. (2021) Structural Connectivity Gradients of the Temporal Lobe Serve as Multiscale Axes of Brain Organization and Cortical Evolution. Cerebral cortex (New York, N.Y. : 1991), 31(11), 5151.

Schiffer C, et al. (2021) Convolutional neural networks for cytoarchitectonic brain mapping at large scale. NeuroImage, 240, 118327.

DeKraker J, et al. (2021) Surface-based hippocampal subfield segmentation. Trends in neurosciences, 44(11), 856.