

Resource Summary Report

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SPM Anatomy Toolbox

RRID:SCR_013273

Type: Tool

Proper Citation

SPM Anatomy Toolbox (RRID:SCR_013273)

Resource Information

URL: http://www.fz-juelich.de/ime/spm_anatomy_toolbox

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Description: A MATLAB toolbox which uses three dimensional probabilistic cytoarchitectonic maps to correlate microscopic, anatomic and functional data of the cerebral cortex. Correlating the activation foci identified in functional imaging studies of the human brain with structural (e.g., cytoarchitectonic) information on the activated areas is a major methodological challenge for neuroscience research. We here present a new approach to make use of three-dimensional probabilistic cytoarchitectonic maps, as obtained from the analysis of human post-mortem brains, for correlating microscopical, anatomical and functional imaging data of the cerebral cortex. We introduce a new, MATLAB based toolbox for the SPM2 software package which enables the integration of probabilistic cytoarchitectonic maps and results of functional imaging studies. The toolbox includes the functionality for the construction of summary maps combining probability of several cortical areas by finding the most probable assignment of each voxel to one of these areas. Its main feature is to provide several measures defining the degree of correspondence between architectonic areas and functional foci. The software, together with the presently available probability maps, is available as open source software to the neuroimaging community. This new toolbox provides an easy-to-use tool for the integrated analysis of functional and anatomical data in a common reference space.

Abbreviations: SPM Anatomy Toolbox

Resource Type: software resource

Defining Citation: [PMID:15850749](#)

Keywords: human, brain, imaging, functional magnetic resonance imaging, structure, mapping, atlas, pet, neuroimaging

Funding: NIMH ;
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Ratings and Alerts

No rating or validation information has been found for SPM Anatomy Toolbox.

No alerts have been found for SPM Anatomy Toolbox.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 108 mentions in open access literature.

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

Starling-Alves I, et al. (2025) Children identified for classroom-based math support show altered resting-state connectivity in parietal brain regions. Scientific reports, 15(1), 27013.

daSilva Morgan K, et al. (2025) Visual cortical activity in Charles Bonnet syndrome: testing the deafferentation hypothesis. Journal of neurology, 272(3), 199.

Borhanazad M, et al. (2024) Lateralized modulation of cortical beta power during human gait is related to arm swing. iScience, 27(7), 110301.

Knobloch S, et al. (2024) Empathy in schizophrenia: neural alterations during emotion recognition and affective sharing. Frontiers in psychiatry, 15, 1288028.

Aberg KC, et al. (2024) The neurobehavioral correlates of exploration without learning: Trading off value for explicit, prospective, and variable information gains. Cell reports, 43(3), 113880.

Stalter J, et al. (2023) The impact of aging on morphometric changes in the cerebellum: A voxel-based morphometry study. Frontiers in aging neuroscience, 15, 1078448.

Riva F, et al. (2023) Age-related differences in interference control in the context of a finger-lifting task: an fMRI study. Social cognitive and affective neuroscience, 18(1).

Raithel CU, et al. (2023) Recruitment of grid-like responses in human entorhinal and piriform cortices by odor landmark-based navigation. *Current biology : CB*, 33(17), 3561.

Fourcade A, et al. (2022) Enhanced processing of aversive stimuli on embodied artificial limbs by the human amygdala. *Scientific reports*, 12(1), 5778.

Soyman E, et al. (2022) Intracranial human recordings reveal association between neural activity and perceived intensity for the pain of others in the insula. *eLife*, 11.

Wang M, et al. (2022) Risk-taking in the human brain: An activation likelihood estimation meta-analysis of the balloon analog risk task (BART). *Human brain mapping*, 43(18), 5643.

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Weilnhammer V, et al. (2021) An active role of inferior frontal cortex in conscious experience. *Current biology : CB*, 31(13), 2868.

Rogers CS, et al. (2020) Age-Related Differences in Auditory Cortex Activity During Spoken Word Recognition. *Neurobiology of language (Cambridge, Mass.)*, 1(4), 452.

Argiris G, et al. (2020) Neurosurgical lesions to sensorimotor cortex do not impair action verb processing. *Scientific reports*, 10(1), 523.

Takami K, et al. (2020) Dissociable Behavioral and Neural Correlates for Target-Changing and Conforming Behaviors in Interpersonal Aggression. *eNeuro*, 7(3).

Kuhnke P, et al. (2020) Left posterior inferior parietal cortex causally supports the retrieval of action knowledge. *NeuroImage*, 219, 117041.