

Resource Summary Report

Generated by PRECISE-TBI on Sep 8, 2026

International Consortium of Brain Mapping DTI-81 Atlas

RRID:SCR_008066

Type: Tool

Proper Citation

International Consortium of Brain Mapping DTI-81 Atlas (RRID:SCR_008066)

Resource Information

URL: http://www.loni.usc.edu/ICBM/Downloads/Downloads_DTI-81.shtml

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Description: A stereotaxic probabilistic white matter atlas that fuses DTI-based white matter information with an anatomical template (ICBM-152). This atlas is based on probabilistic tensor maps obtained from 81 normal subjects acquired under an initiative of the International Consortium of Brain Mapping (ICBM). The subjects were normal right-handed adults ranging from 18 to 59 years of age. A hand-segmented white matter parcellation map was created from this averaged map. This map can be used for automated white matter parcellation. The precision of the affine-based image normalization and automated parcellation was measured for a group of normal subjects using manually defined anatomical landmarks. The raw diffusion-weighted images (DWIs) were first co-registered to one of the least diffusion-weighted images and corrected for subject motion with 6-mode rigid transformation with Automated Image Registration (AIR). The average of all DWIs (aDWI) was calculated and used for a DTI-based anatomic image. For anatomical images to drive the normalization process, aDWIs were used. These images were normalized to the template (ICBM-152) using a 12-mode affine or 4th order polynomial non-linear transformation of AIR. The transformation matrix was then applied to the calculated diffusion tensor field. In the white matter parcellation map (WMPM), deep white matter regions were manually segmented into various anatomic structures based on fiber orientation information.

Synonyms: ICBM DTI-81

Resource Type: atlas, data or information resource

Keywords: adult, echo-planar image sequence, external capsule, fornix, stria terminalis, anatomical template, anterior commissure, anterior limb of internal capsule, association fiber, brain, brainstem, cerebral peduncle, cingulum, commissural fiber, corona radiata,

corpus callosum, corticospinal tract, inferior cerebellar peduncle, inferior fronto-occipital fasciculus, inferior longitudinal fasciculus, inferior fronto-occipital fasciculus, uncinate fasciculus, medial lemniscus, medial longitudinal fasciculus, middle cerebellar peduncle, posterior limb of internal capsule, projection fiber, retrolenticular part of the internal capsule, sagittal stratum, superior cerebellar peduncle, superior fronto-occipital fasciculus, superior longitudinal fasciculus, tapetum, tensor map, tract, white matter, magnetic resonance imaging

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Resource ID: SCR_008066

Alternate IDs: nif-0000-10495

Old URLs: http://www.loni.ucla.edu/Atlases/Atlas_Detail.jsp?atlas_id=15

Record Creation Time: 20220129T080245+0000

Record Last Update: 20260905T133149+0000

Ratings and Alerts

No rating or validation information has been found for International Consortium of Brain Mapping DTI-81 Atlas.

No alerts have been found for International Consortium of Brain Mapping DTI-81 Atlas.

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 [PRECISE-TBI](#) .

Hamann J, et al. (2022) Somatosensory evoked potentials and their relation to microstructural damage in patients with multiple sclerosis-A whole brain DTI study. *Frontiers in neurology*, 13, 890841.

Guerreri M, et al. (2019) Age-related microstructural and physiological changes in normal brain measured by MRI ??-metrics derived from anomalous diffusion signal representation. *NeuroImage*, 188, 654.

Kitada R, et al. (2014) The brain network underlying the recognition of hand gestures in the blind: the supramodal role of the extrastriate body area. *The Journal of neuroscience : the official journal of the Society for Neuroscience*, 34(30), 10096.