# Cell Centered Database

University of California, San Diego

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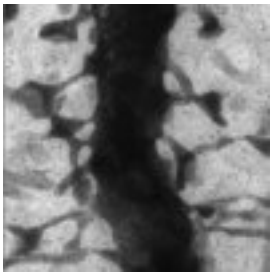
Microscopy Product #:51 spin_filt

For the most updated information, please visit
http://ccdb.ucsd.edu/CCDBWebSite/main?event=displaySum&mpid=51

| Image2D | Reconstruction | Segmentation |
|---|---|---|
| |  | |

## Project Information:

| | |
|---|---|
| PROJECT_ID | P1172 |
| PROJECT_NAME | MPL pilot data |
| PROJECT_DESCRIPTION | tests for most probable loss tomography on the 3200 |
| LEADER | James Bouwer |
| FUNDING_AGENCY | NIH IVEM |
| PROJECT_START_DATE | 2004-04-01 00:00:00.0 |
| PROJECT_END_DATE | |
| COLLABORATORS | Mark Ellisman, Steven Peltier, Mason Mackey |
| PUBLICATION1 | Bouwer JC, Mackey MR, Lawrence A, Deerinck TJ, Jones YZ, Terada M, Martone ME, Peltier S, Ellisman MH. Automated most-probable loss tomography of thick selectively stained biological specimens with quantitative measurement of resolution improvement. J Struct Biol. 2004 Dec;148(3):297-306. |
| PUBLICATION2 | |
| PUBLICATION3 | |

| Experiment Information - | |
|---|---|
| PURPOSE | To provide a test specimen for MPL imaging using copper lead impregnation |
| TITLE | Copper Lead Specimens |
| EXPERIMENTER | Ying Jones |
| EXPERIMENT_NAME | |
| EXPERIMENT_DATE | |

| Subject Information - | |
|---|---|
| GROUP_BY | |
| SUBJECT_NAME | normal |
| FIXATION_METHOD_ID | |
| SCIENTIFIC_NAME | mus musculus |
| SPECIES | mouse |
| STRAIN | Unspecified |
| AGE | |
| AGECLASS | unspecified |
| ANIMAL_NAME | |
| LITTER_ID | |
| SEX | unspecified |
| VENDOR | |
| WEIGHT | |

| Tissue - | |
|---|---|
| ANATOMIC_LOCATION | hippocampus |
| MICROTOME | ultramicrotome |
| ORIENTATION | coronal |
| THICKNESS | 1 um |
| TISSUE_PROD_STORAGE | |
| EXTERNAL_FILE_NAME | |
| TISSUE_GROUP_TYPE | |

| Microscopy Product Information - | |
|---|---|
| MICROSCOPY_PRODUCT_ID | 51 |
| IMAGE_BASENAME | spin_filt |
| CREATE_DATE | 2003-11-03 00:00:00.0 |
| INSTRUMENT | JEM 3200 EF |
| MICROSCOPE_TYPE | IVEM |
| PLANE_COUNT | |
| PRODUCT_TYPE | single tilt tomography |
| PURL | NA |
| SESSION_NAME | |
| TELESCIENCE_SRB | P1172/Experiment_31/Subject_32/Tissue_42/Microscopy_51 |
| X_RESOLUTION | |
| Y_RESOLUTION | |
| XSIZE | 4000 |
| YSIZE | 4000 |

## Protocol:

N/A

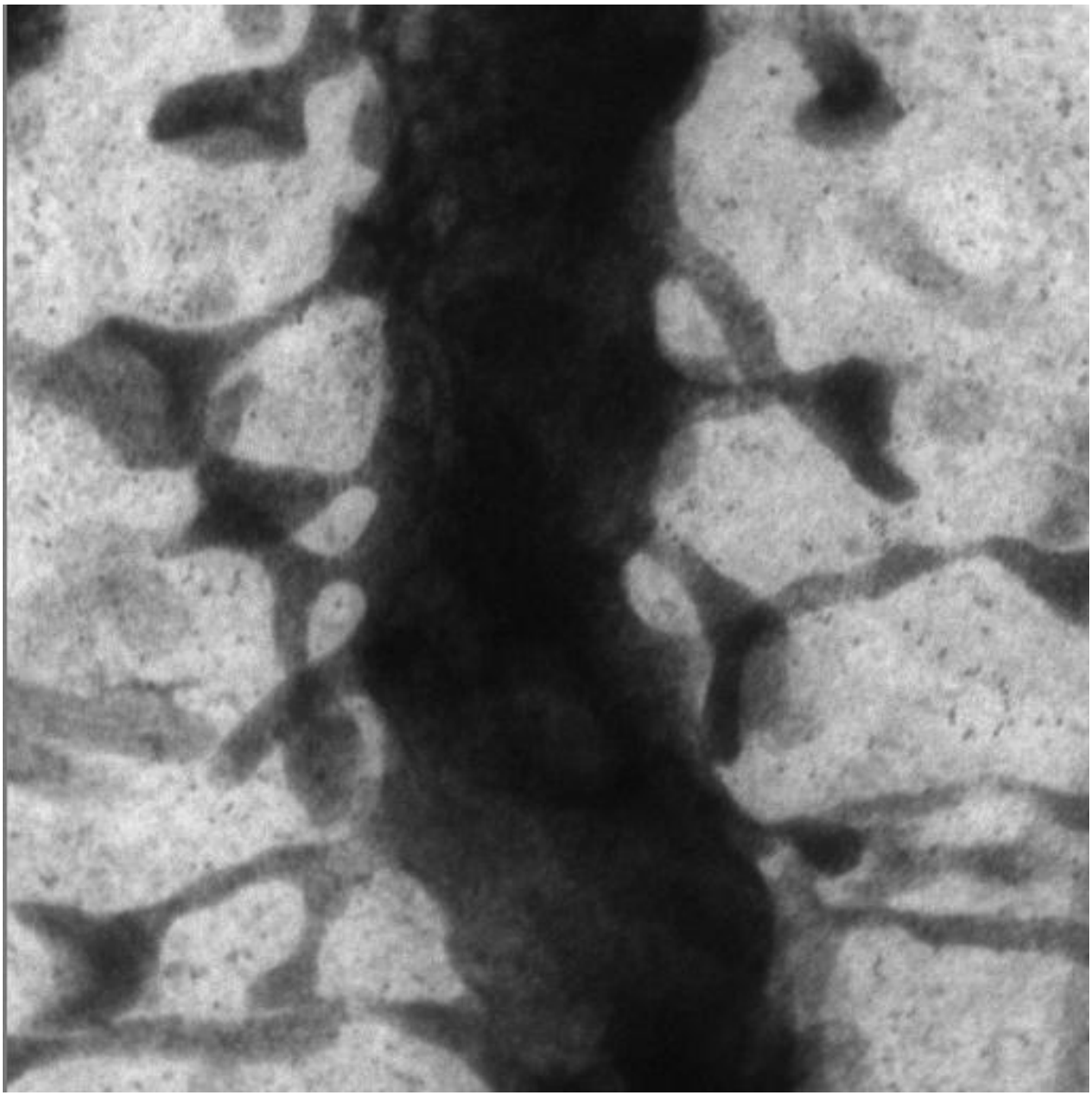
| Image Type - | |
|---|---|
| SINGLE_TILT_IMAGE_SEQ_ID | 17 |
| TILT_INCREMENT | 1 degrees |
| SINGLETILTIMAGESEQ_ID | 17 |
| TILT_INCREMENT | 1 degrees |
| RANGE_MAX | 60 degrees^ r ??O???WU ` te? <U oUNDy ????UN?UN ` <U 'o WU ` lu ?N |
| RANGE_MIN | -60 degrees^ r ??O???WU ? te? <U oUNDy ????UN?UN ? <U 'o WU ? lu ?N |

| Specimen Description - | |
|---|---|
| ANATOMICAL_DETAIL | 51 |
| ATLAS_COORD | , , |
| CELL_TYPE | pyramidal neuron |
| ORGAN | brain |
| REGION | hippocampus |
| STRUCTURE | spiny dendrite, synaptic vesicles |
| SYSTEM | central nervous system |

| Electron Microscopy Product - | |
|---|---|
| EM_PRODUCT_ID | 18 |
| ACCELERATING_VOLTAGE | 300 KeV |
| EMBEDDING_MEDIUM | resin |
| ENERGY_FILTER_SLIT | most probable loss with 35 eV slit |
| MAGNIFICATION | 4000 |
| RECORDING_MEDIUM | Tietz 4 K CCD |

## Reconstruction

Reconstruction Image -



| Reconstruction - | |
|---|---|
| RECONSTRUCTION3D_ID | 51 |
| ALIGNMENT_METHOD | Imod |
| ALIGNMENT_PROGRAM | Imod |
| BASENAME_ORIGFILE | NA |
| CROPPING_COORDINATE1 | , |
| CROPPING_COORDINATE2 | , |
| FIDUCIAL_MARK_FILE | spin.filt.align.com |
| RECON_ALGORITHM | TxBr with quadratic corrections |
| RECON_DATE | 2004-01-01 00:00:00.0 |
| RECON_DESC | files were aligned in IMOD and reconstructed using TxBr with quadratic corrections |
| RECON_PROGRAM | IMOD and TxBr |
| RECON_TYPE | single tilt electron tomography |
| THUMBNAIL | P1172/spin_filt_vt.jpg |
| VOLUME_DIMENSION | , , |
| VOLUME_NAME | P1172James/ |
| VOXEL_SCALE | , , |
| RECONSTRUCTION_IMAGES_ID | 51 |
| RECON_IMAGE_DESC | Tomographic reconstruction of a spiny dendrite from mouse hippocampus stained by double impregnation with copper and lead salts and imaged using most probable loss energy filtering (see Bouwer et al., 2004). This staining technique also fills membrane bound organelles such as synaptic vesicles with electron dense reaction product. |
| RECON_FILE_NAME | P1172James/4Kmag_spiny_MPL_512_thumb.jpg |
| VOLUME_THUMBNAIL | P1172/spin_filt_vt.jpg |

# USER AGREEMENT

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# USER NOTIFICATION

For large size image data, it will take several minutes to download, please be patient. Thanks!

# ACKNOWLEDGEMENT

Data used from the CCDB should be appropriately referenced, including both the author of the data and the CCDB. If the data were from a published study, the reference is included in the database record. The following reference should be cited for the CCDB:

Martone, M. E., Gupta, A., Wong, M., Qian, X., Sosinsky, G., Ludaescher, B., and Ellisman, M. H. A cell centered database for electron tomographic data. J. Struct. Biology 138: 145-155, 2002.

In addition, the support for the Cell Centered Database should be included in the acknolwedgement section of any publication:

The Cell Centered Database is supported by NIH grants from NCRR RR04050, RR RR08605 and the Human Brain Project DA016602 from the National Institute on Drug Abuse, the National Institute of Biomedical Imaging and Bioengineering and the National Institute of Mental Health, and NSF grants supporting the National Partnership for Advanced Computational Infrastructure NSF-ASC 97-5249 and MCB-9728338.

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