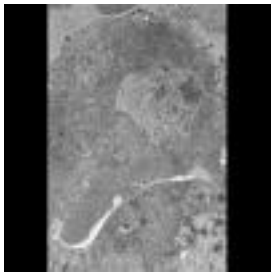
Cell Centered Database
University of California, San Diego
maryann@ncmir.ucsd.edu

Microscopy Product #:3939 CAFHPF

For the most updated information, please visit
http://ccdb.ucsd.edu/CCDBWebSite/main?event=displaySum&mpid=3939

Image2D	Reconstruction	Segmentation
		

Project Information:

PROJECT_ID	P1243
PROJECT_NAME	High Pressure Freezing and Freeze Substitution
PROJECT_DESCRIPTION	This project is designed to achieve ultimate ultrastructure of animal tissues.
LEADER	Mark Ellisman, Gina Sosinsgy, ying jones
FUNDING_AGENCY	NIH
PROJECT_START_DATE	2004-01-01 00:00:00.0
PROJECT_END_DATE	
COLLABORATORS	
PUBLICATION1	
PUBLICATION2	
PUBLICATION3	

Experiment Information -	
PURPOSE	Testing new high pressure freezing techniques on cultured cells
TITLE	Insect
EXPERIMENTER	Gina Sosinsky
EXPERIMENT_NAME	
EXPERIMENT_DATE	

Subject Information -	
GROUP_BY	viral transfection
SUBJECT_NAME	FHV infection
FIXATION_METHOD_ID	
SCIENTIFIC_NAME	Drosophila melanogaster
SPECIES	Fruitfly
STRAIN	melanogaster
AGE	days
AGECLASS	Adult
ANIMAL_NAME	
LITTER_ID	
SEX	unspecified
VENDOR	
WEIGHT	grams

Tissue -	
ANATOMIC_LOCATION	
MICROTOME	
ORIENTATION	
THICKNESS	80 nm
TISSUE_PROD_STORAGE	
EXTERNAL_FILE_NAME	
TISSUE_GROUP_TYPE	RTF-HPF

Microscopy Product Information -	
MICROSCOPY_PRODUCT_ID	3939
IMAGE_BASENAME	CAFHPF
CREATE_DATE	
INSTRUMENT	JEOL4000EX IVEM
MICROSCOPE_TYPE	IVEM
PLANE_COUNT	
PRODUCT_TYPE	SURVEY
PURL	
SESSION_NAME	
TELESCIENCE_SRB	P1243/Experiment_3469/Subject_232/Tissue_298/Microscopy_3939
X_RESOLUTION	nm/pixels
Y_RESOLUTION	nm/pixels
XSIZE	5378
YSIZE	8013

Protocol:

Fixation: The media was removed and saved. Then, cell pellets were fixed in 2% glutaraldehyde in 100 mM cacodylate buffer for 30 minutes on ice. The fixed pellet was resuspended in media and centrifuged again. Cells were loaded into the 100 mm well of a type A brass planchette (Ted Pella, Inc. Redding, CA) and fast frozen in the Bal-Tec HPM010 (Bal-Tec, Liechtenstein).

Freeze substitution: After freezing, samples (2) and (3) were placed into a Leica EM AFS Freeze substitution (FS) machine (Leica Microsystems, Bannockburn, IL) and incubated at -90 deg C for 24 hours in 0.1 percent tannic acid in acetone. Samples were washed three times with cold acetone (cooled to -90 degrees C) over 5 minutes, and placed in 1 percent OsO4 and 0.1% UA in cold acetone for 72 hours and held at -90 degrees C. After slowly warming to room temperature at 5 degrees C per hour, the specimens were rinsed in pure acetone three times (10 min. at room temperature). Infiltration and embedding in Durcupan resin was subsequently performed at room temperature.

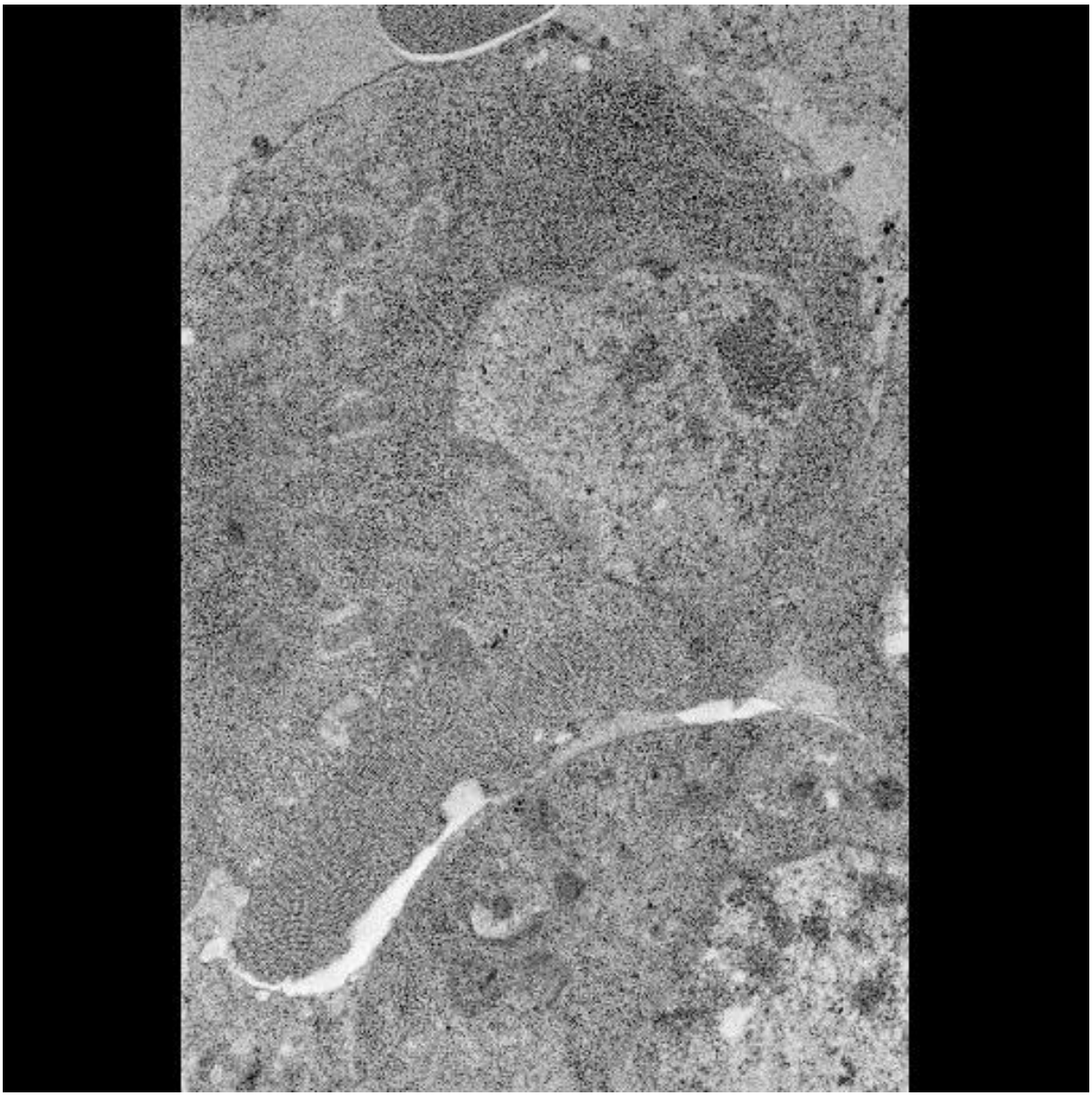
Image Type -

Specimen Description -	
ANATOMICAL_DETAIL	15593
ATLAS_COORD	, ,
CELL_TYPE	Drosophila DL1 cell
TISSUE	embryonic derived cells

Electron Microscopy Product -	
EM_PRODUCT_ID	15360
ACCELERATING_VOLTAGE	80 keV
EMBEDDING_MEDIUM	Durcupan
MAGNIFICATION	30000
RECORDING_MEDIUM	No recording medium provided

Raw 2D Image

Raw Low Resolution 2D Image -



Raw 2D Image -	
IMAGE2D_ID	15509
IMAGE_DESC	Full sized tiff image (CAFHPF_rec.tif) of the insect cells processed using conventional aldehyde fixation high pressure freezing. Image corresponds to Fig. 1B from the publication.
IMAGE_FILE_FORMAT	tiff
IMAGE_FILE_NAME	/usr/local/tomcat/webapps/FileUploadTool/temp_file_upload/CAFHPF_rec.jpg
MAGNIFICATION	30000 X
RAW_DATA_FILE	/telescience/home/CCDB_DATA_USER.portal/P1243/Experiment_3469/Subject_232/Tissue_298/Microscopy_3939/CAFHPF_rec.tif
THUMBNAIL_DESC	Electron micrograph of cultured Drosophila Dl1 cells infected with flock house virus, prepared using chemical fixation and high pressure freezing followed by freeze substitution. This cell was prepared as part of an experiment to investigate different protocols for high pressure freezing.
THUMBNAIL_FILE	/usr/local/tomcat/webapps/FileUploadTool/temp_file_upload/CAFHPF_rec_thmb.jpg
X_RESOLUTION	.0019 um/pixel
Y_RESOLUTION	.0019 um/pixel
X_SIZE	5378 pixels
Y_SIZE	8013 pixels

USER AGREEMENT

Data Sharing and Citation Policy: The mission of the CCDB is to promote data sharing among scientists interested in cellular and subcellular anatomy and in developing computer algorithms for 3D reconstruction and modeling of such data. Data sets may be viewed or shared at the discretion of the author of the data. In some cases, the data may be freely viewed and downloaded without contacting the original author while in other cases, permission of the author may have to be obtained prior to downloading the data. In either case, failure to cite or give proper credit to the original authors who collected these data in subsequent published articles or presentations is a material breach of this User Agreement. CCDB requires all researchers re-analyzing these published data via the CCDB access to reference the original published article and the CCDB. An example of an appropriate acknowledgement is provided on the CCDB web site. CCDB is not in a position to police every intended use of these data. The scientific community will self-police the compliance of this contractual obligation.

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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.

Maryann Martone