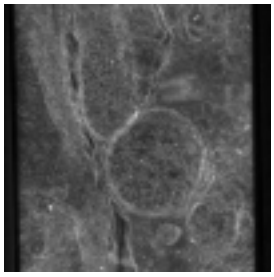
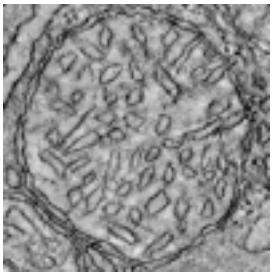
Cell Centered Database

University of California, San Diego

Maryann Martone

Microscopy Product #:54 cone1

For the most updated information, please visit
http://ccdb.ucsd.edu/CCDBWebSite/main?event=displaySum&mpid=54

Image2D	Reconstruction	Segmentation
		

Project Information:

PROJECT_ID	P1209
PROJECT_NAME	Cone and Rod mitochondria
PROJECT_DESCRIPTION	In situ structures of mitochondria in rods and cones
LEADER	Don Fox, University of Houston
FUNDING_AGENCY	
PROJECT_START_DATE	2001-09-01 00:00:00.0
PROJECT_END_DATE	2003-08-30 00:00:00.0
COLLABORATORS	Guy Perkins
PUBLICATION1	Perkins, G.A., Ellisman, M.H. and Fox, D.A. Three-dimensional analysis of mouse rod and cone mitochondrial cristae architecture: bioenergetic and functional implications. Mol Vis. 2003 Mar 11;9:60-73.
PUBLICATION2	
PUBLICATION3	

Experiment Information -	
PURPOSE	electron tomography of cone mitochondria
TITLE	Cone and rod mitochondria: electron tomography
EXPERIMENTER	Guy Perkins
EXPERIMENT_NAME	
EXPERIMENT_DATE	2001-07-01 00:00:00.0

Subject Information -	
GROUP_BY	
SUBJECT_NAME	
FIXATION_METHOD_ID	
SCIENTIFIC_NAME	mus musculus
SPECIES	mouse
STRAIN	C57BL/6
AGE	21 days
AGECLASS	young adult
ANIMAL_NAME	
LITTER_ID	
SEX	female
VENDOR	Harlan
WEIGHT	25 g

Tissue -	
ANATOMIC_LOCATION	retina
MICROTOME	ultramicrotome
ORIENTATION	tranverse
THICKNESS	300 nm
TISSUE_PROD_STORAGE	Fox WT Durcupan400
EXTERNAL_FILE_NAME	
TISSUE_GROUP_TYPE	

Microscopy Product Information -	
MICROSCOPY_PRODUCT_ID	54
IMAGE_BASENAME	cone1
CREATE_DATE	2001-11-20 00:00:00.0
INSTRUMENT	JEOL4000EX
MICROSCOPE_TYPE	IVEM
PLANE_COUNT	61
PRODUCT_TYPE	single tilt
PURL	NA
SESSION_NAME	
TELESCIENCE_SRB	P1209/Experiment_33/Subject_35/Tissue_45/Microscopy_54
X_RESOLUTION	.00224 um
Y_RESOLUTION	.00224 um
XSIZE	1024
YSIZE	1024

Protocol:

N/A

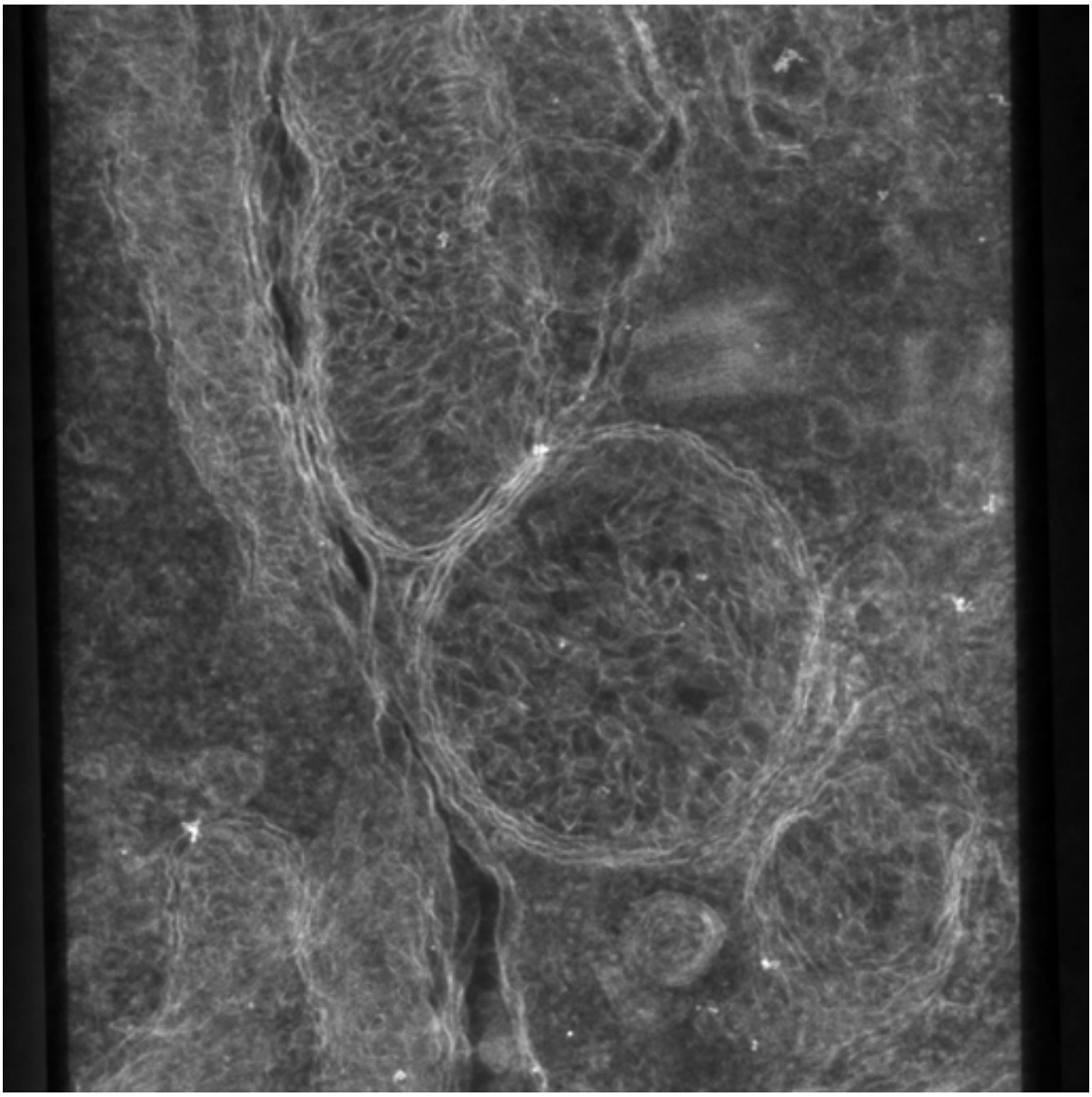
Image Type -	
SINGLE_TILT_IMAGE_SEQ_ID	18
TILT_INCREMENT	2 degrees
SINGLETILTIMAGESEQ_ID	18
TILT_INCREMENT	2 degrees
RANGE_MAX	60 degreessic_i security_level = 1 #TOAD#2/11/2005 3:26:34 PM/\CCDBD_DEV@CCDBPRD#TOAD# /// CREAT
RANGE_MIN	-60 degrees^ r ??O???WU I? <U oUNDy ????UN?UN <U 'o WU lu ?N

Specimen Description -	
ANATOMICAL_DETAIL	54
ATLAS_COORD	, ,
CELL_TYPE	photoreceptor/cone
ORGAN	eye
REGION	retina
STRUCTURE	mitochondrion
SYSTEM	central nervous system

Electron Microscopy Product -	
EM_PRODUCT_ID	19
ACCELERATING_VOLTAGE	400 KeV
EMBEDDING_MEDIUM	resin
MAGNIFICATION	40000
RECORDING_MEDIUM	film
SPOT_SIZE	1 setting

Raw 2D Image

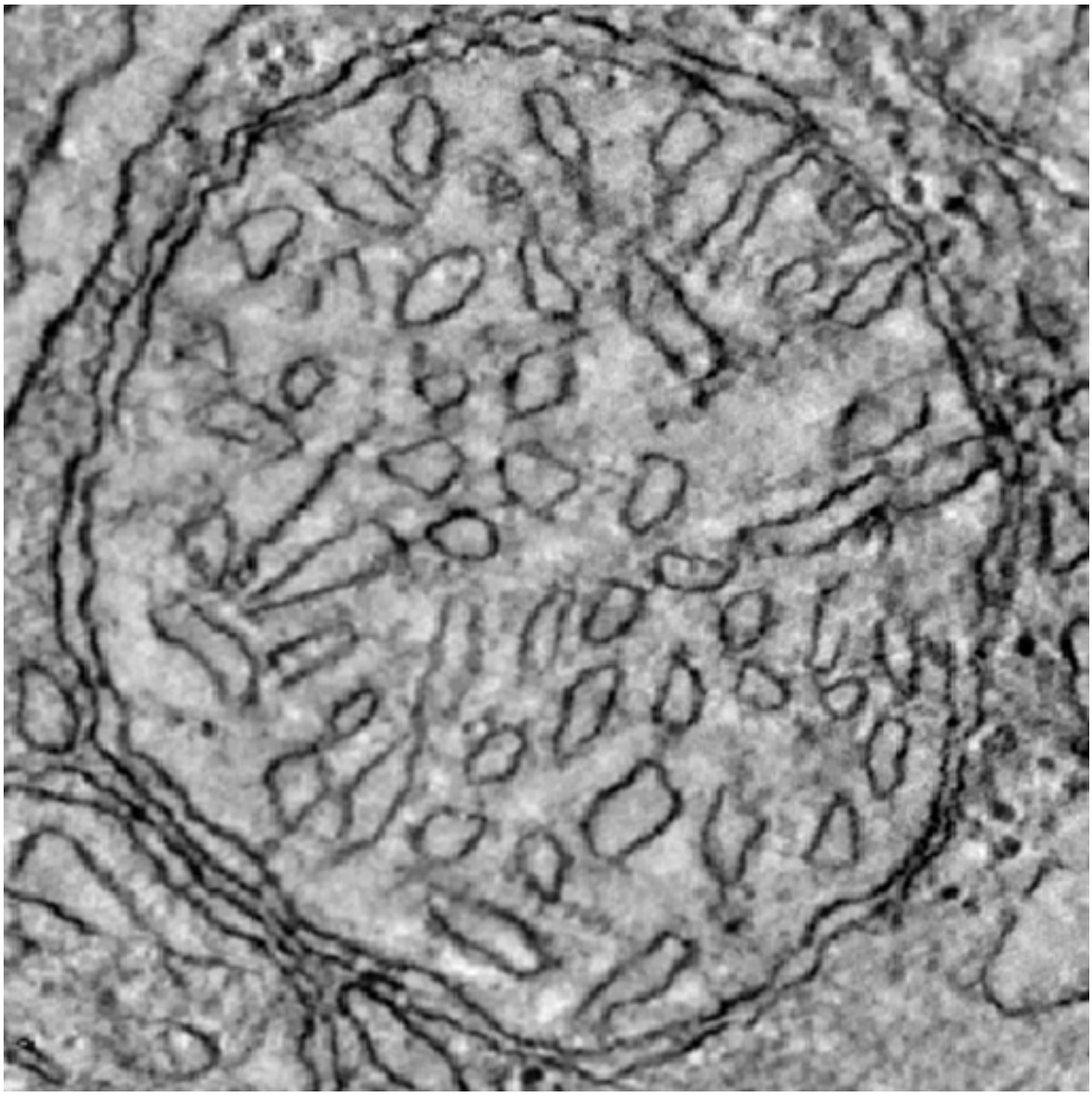
Raw Low Resolution 2D Image -



Raw 2D Image -	
IMAGE2D_ID	54
IMAGE_DESC	Tar file containing cropped and aligned tilt images plus fiducial mark files.
IMAGE_FILE_FORMAT	Suprim
IMAGE_FILE_NAME	cone1/cone1_img.jpg
RAW_ANIMATION_DESC	Aligned and cropped tilt images of a mitochondrion from a retinal cone cell
RAW_ANIMATION_FILE	cone1/cone1_crop.qt
RAW_DATA_FILE	cone1/cone1_img.tar
THUMBNAIL_DESC	Single tilt image (zero degree tilt) of a mitochondrion from a retinal cone cell from a 0.3 um section
THUMBNAIL_FILE	P1209/cone1_rt.jpg

Reconstruction

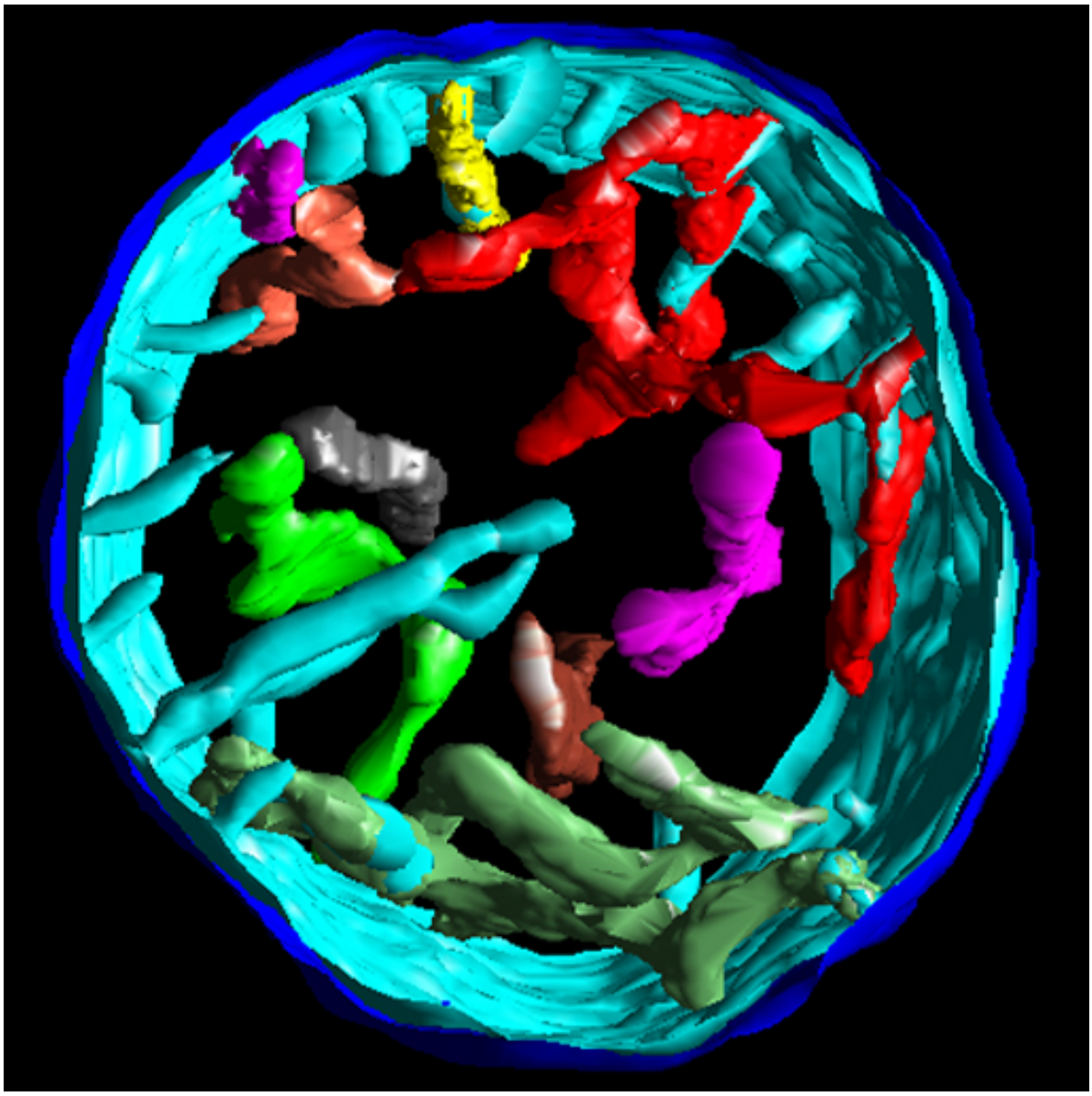
Reconstruction Image -



Reconstruction -	
RECONSTRUCTION3D_ID	54
ALIGNMENT_METHOD	linear interpolation with manual delineation of fiducial marks
ALIGNMENT_PROGRAM	xfido, saxalign
BASENAME_ORIGFILE	NA
CROPPING_COORDINATE1	,
CROPPING_COORDINATE2	,
FIDUCIAL_MARK_FILE	cone.fido
RECON_ALGORITHM	R-weighted back projection
RECON_DATE	2001-11-30 00:00:00.0
RECON_DESC	Tar file containing tomographic volume .img and .hdr files in Analyze 7.5 format
RECON_PROGRAM	Suprim
RECON_TYPE	single tilt electron tomography
THUMBNAIL	P1209/cone1_vt.jpg
VOLUME_DIMENSION	736, 1010, 125
VOLUME_NAME	cone1/cone1_vol.tar
VOXEL_SCALE	.0024, .0024, .0024
RECONSTRUCTION_IMAGES_ID	54
RECON_IMAGE_DESC	Single computed slice through a tomographic reconstruction of a mitochondria from a rod photoreceptor in the mouse retina.
RECON_FILE_NAME	cone1/cone1_vol.jpg
VOLUME_THUMBNAIL	P1209/cone1_vt.jpg
ANIMATION_FILE	cone1/cone1_reco.qt
ANIMATION_DESC	Animation through the slices of a tomographic reconstruction of a mitochondria from a rod photoreceptor in the mouse retina.

Segmentation

Segmentation Image -



Segmentation -	
SEGMENTED_OBJECT_ID	1089
OBJECT_DESC	outer mitochondrial membrane
OBJECT_NAME	outer
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1089
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1090
OBJECT_DESC	inner mitochondrial membrane
OBJECT_NAME	inner
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1090
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1091
OBJECT_DESC	crista
OBJECT_NAME	crista1
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1091
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1092
OBJECT_DESC	crista
OBJECT_NAME	crista2
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1092
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1093
OBJECT_DESC	crista
OBJECT_NAME	crista3
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1093
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1094
OBJECT_DESC	crista
OBJECT_NAME	crista4
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1094
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1095

Segmentation -	
OBJECT_DESC	crista
OBJECT_NAME	crista5
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1095
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1096
OBJECT_DESC	crista
OBJECT_NAME	crista6
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1096
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1097
OBJECT_DESC	crista
OBJECT_NAME	crista7
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1097
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1098
OBJECT_DESC	crista
OBJECT_NAME	crista8
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1098
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1099
OBJECT_DESC	crista
OBJECT_NAME	crista9
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1099
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1100
OBJECT_DESC	crista
OBJECT_NAME	crista10
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1100
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1101
OBJECT_DESC	crista
OBJECT_NAME	crista11

Segmentation -	
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1101
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1102
OBJECT_DESC	crista
OBJECT_NAME	crista12
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1102
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1103
OBJECT_DESC	crista
OBJECT_NAME	crista14
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1103
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1104
OBJECT_DESC	crista
OBJECT_NAME	crista15
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1104
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1105
OBJECT_DESC	crista
OBJECT_NAME	crista16
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1105
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1106
OBJECT_DESC	crista
OBJECT_NAME	crista17
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1106
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1107
OBJECT_DESC	crista
OBJECT_NAME	crista18
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg

Segmentation -	
SEGMENTED_OBJECT_ID	1107
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1108
OBJECT_DESC	crista
OBJECT_NAME	crista19
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1108
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1109
OBJECT_DESC	crista
OBJECT_NAME	crista20
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1109
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1110
OBJECT_DESC	crista
OBJECT_NAME	crista21
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1110
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1111
OBJECT_DESC	crista
OBJECT_NAME	crista22
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1111
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1112
OBJECT_DESC	crista
OBJECT_NAME	crista23
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1112
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1113
OBJECT_DESC	crista
OBJECT_NAME	crista24
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1113
SEG_FILE_NAME	cone1/cone1_seg.tar

Segmentation -	
SEGMENTED_OBJECT_ID	1114
OBJECT_DESC	crista
OBJECT_NAME	crista25
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1114
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1115
OBJECT_DESC	crista
OBJECT_NAME	crista26
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1115
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1116
OBJECT_DESC	crista
OBJECT_NAME	crista27
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1116
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1117
OBJECT_DESC	crista
OBJECT_NAME	crista28
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1117
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1118
OBJECT_DESC	crista
OBJECT_NAME	crista29
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1118
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1119
OBJECT_DESC	crista
OBJECT_NAME	crista30
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1119
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1120
OBJECT_DESC	crista

Segmentation -

OBJECT_NAME	crista31
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1120
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1121
OBJECT_DESC	crista
OBJECT_NAME	crista32
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1121
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1122
OBJECT_DESC	crista
OBJECT_NAME	crista33
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1122
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1123
OBJECT_DESC	crista
OBJECT_NAME	crista34
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1123
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1124
OBJECT_DESC	crista
OBJECT_NAME	crista35
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1124
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1125
OBJECT_DESC	crista
OBJECT_NAME	crista36
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1125
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1126
OBJECT_DESC	crista
OBJECT_NAME	crista37
OBJECT_TYPE	surface

Segmentation -	
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1126
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1127
OBJECT_DESC	crista
OBJECT_NAME	crista38
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1127
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1128
OBJECT_DESC	crista
OBJECT_NAME	crista39
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1128
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1129
OBJECT_DESC	crista
OBJECT_NAME	crista40
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1129
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1130
OBJECT_DESC	crista
OBJECT_NAME	crista41
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1130
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1131
OBJECT_DESC	crista
OBJECT_NAME	crista42
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1131
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1132
OBJECT_DESC	crista
OBJECT_NAME	crista43
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1132

Segmentation -	
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1133
OBJECT_DESC	crista
OBJECT_NAME	crista44
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1133
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1134
OBJECT_DESC	crista
OBJECT_NAME	crista45
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1134
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1135
OBJECT_DESC	crista
OBJECT_NAME	crista46
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1135
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1136
OBJECT_DESC	crista
OBJECT_NAME	crista47
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1136
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1137
OBJECT_DESC	crista
OBJECT_NAME	crista48
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1137
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	1138
OBJECT_DESC	crista
OBJECT_NAME	crista49
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	1138
SEG_FILE_NAME	cone1/cone1_seg.tar
SEGMENTED_OBJECT_ID	202

Segmentation -	
ANALYZE_DESC	Measured volumes, surface areas, crusta junctions, connectivity
ANALYZE_DESC	Measured volumes, surface areas, crusta junctions, connectivity
IS_MANUAL	Y
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	cone1/cone1_seg.jpg
SEGMENTED_OBJECT_ID	202
SEGMENT_PERSON_NAME	Guy Perkins
SEG_DESC	Manual tracing of mitochondrial membrane structures using Xvoxtrace and then surfaced using Synu. Each crista was segmented individually
SEG_FILE_NAME	cone1/cone1_seg.tar
THUMBNAIL	P1209/cone1_st.jpg

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.

DISCLAIMER

THE DATA PROVIDED BY THE CCDB ARE FREELY DISTRIBUTED AND WITHOUT CHARGE. THESE DATA ARE PROVIDED BY THE CCDB "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT, TO ANY THIRD PARTY RIGHTS. IN NO EVENT SHALL THE CCDB BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THESE DATA, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

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