

Materials List for

# Whole Animal Imaging of *Drosophila melanogaster* using Microcomputed Tomography

Todd A. Schoborg<sup>1</sup>

<sup>1</sup>Department of Molecular Biology, University of Wyoming

## Corresponding Author

Todd A. Schoborg  
todd.schoborg@uwyo.edu

## Citation

Schoborg, T.A. Whole Animal Imaging of *Drosophila melanogaster* using Microcomputed Tomography. *J. Vis. Exp.* (), e61515, doi:10.3791/61515 (2020).

## Date Published

September 2, 2020

## DOI

10.3791/61515

## URL

jove.com/video/61515

## Materials

Name	Company	Catalog Number	Comments
100% Ethanol			For critical point drying
Bouin's Solution	Sigma-Aldrich	HT10132	For animal fixation
Critical Point Dryer			Dries samples using the critical point method; multiple options available (Balzers CPD 020 or Leica EMCPD300)
Dragonfly Software	Object Research Systems		For visualization and segmentation of micro-CT datasets; <a href="https://www.theobjects.com/dragonfly/index.html">https://www.theobjects.com/dragonfly/index.html</a>
Heat Block			For microfuge tubes
Image Analysis Workstation			Should contain sufficient RAM and quality graphics card for 3D rendering
Iodine Solution (I <sub>2</sub> KI)	Fisher Scientific	SI86-1	For staining
Microcomputed Tomography Scanner	Bruker	Skyscan 1172	Cone-beam X-Ray geometry; detector is a Hamamatsu 10 MP camera with 11.54 μm pixel size.
Microcomputed Tomography Scanner Software	Bruker		For controlling the scanner itself (e.g., performing flat field corrections, X-ray tube power, camera exposure times, acquisition, etc.)
Minutien Pins	Fine Science Tools	26002-15	For poking hole in cuticle
NRecon Image Reconstruction Software	Bruker		Used to reconstruct cross-section images from 2D projection images taken with cone-beam X-Ray geometry
P10 pipet tips	Genesee Scientific	24-120	Sample mounting
Phosphate Buffered Saline	Research Products International	P32060-4000.0	Dilute to 1X with water before use
Phosphotungstic Acid Hydrate	Sigma-Aldrich	79690-25g	For staining
Pin Holder	Fine Science Tools	26018-17	For Minutien Pins
Triton X-100	Research Products International	111036	To remove waxy coating from adult flies (as 0.5% PBST)

---

X-Ray Microscope	Zeiss	Xradia 520 Versa	Cone-beam X-Ray geometry featuring Fresnel zone plate objective lenses for Resoluton at a Distance (RaaD™)
------------------	-------	------------------	--