

# Fluorescence Lifetime Macro Imager for Biomedical Applications

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jove.com/video/64321

## Materials

Name	Company	Catalog Number	Comments
627 nm LED	Parts Express		Can be replaced with different LED based on the excitation wavelength of the sensor. Used 390 nm LED for Pt-porphyrin dyes.
760 ± 50 nm emission filter	Edmund Optics	84-788	Can be replaced with different filter based on the emission wavelength of the sensor. Used 650 ± 50 nm bandpass filter for Pt-porphyrin dyes.
Balb/c mice	Envigo, UK	Balb/c	
Black box	Thorlabs	XE25C9/M	
Cricket Adapter	Photonis	Cricket-2	
CT26 cells	ATCC	CT26.WT	<a href="https://www.atcc.org/products/crl-2638">https://www.atcc.org/products/crl-2638</a>
DMEM	Sigma-Aldrich	D0697	Other media can also be used
ImageJ Software	ImageJ		Free Image analysis software. Can be downloaded from: <a href="https://imagej.nih.gov/ij/index.html">https://imagej.nih.gov/ij/index.html</a>
MCP-125 image intensifier with P47 phosphor screen	Photonis	PP0360EF	
Mini dishes	Sarstedt	83.3900.300	35 mm diameter
Mylar plastic film, 75 micron	RS Ireland	785-0795	Other plastic substrates can also be used
NanO2-IR	home-made	n/a	The probe can be synthesised according to the published method Tsytsarev V, Arakawa H, Borisov S, Pumbo E, Erzurumlu RS, Papkovsky DB. In vivo imaging of brain metabolism activity using a phosphorescent oxygen-sensitive probe. <i>J Neurosci Methods</i> . 2013 Jun 15;216(2):146-51. doi: 10.1016/j.jneumeth.2013.04.005. Epub 2013 Apr 25. PMID: 23624034; PMCID:

			PMC3719178.' or provided by our lab.
NMV-50M11" 50 mm lens	Navitar		Other lenses compatibel with C-mount adators can be used
Optical breadboard	Thorlabs	MB1836	
Petri Dishes	Sarstedt	82.1472.001	92 mm diameter
Power Supply	Tenma	72-10495	
Pulse Generator	Tenma	TGP110	
Sophy	Amsterdam Scientific Instruments	n/z	Provided by ASI together with the Tpx3Cam
Tpx3Cam	Amsterdam Scientific Instruments	TPXCAM	
Tri2 Software	University of Oxford	n/a	Free Time Resolved Imaging software, can be downloaded from: <a href="https://users.ox.ac.uk/~atdgroup/index.shtml">https://users.ox.ac.uk/~atdgroup/index.shtml</a>
XYZ Translation Stage	Thorlabs	LT3	