

Materials List for

Maintaining and Assessing Various Tissue and Cell Types of the Eye Using a Novel Pumpless Fluidics System

Matthew K. Grumbine¹, Varun Kamat², Khang Bao¹, Trevor Crupi¹, Kedar Mokate², Rayne Lim³, Jennifer R. Chao³, Brian M. Robbins⁴, Daniel T. Hass⁴, James B. Hurley⁴, Ian R. Sweet^{1,2}

¹EnTox Sciences, Inc ²UW Medicine Diabetes Institute, University of Washington ³Department of Ophthalmology, University of Washington ⁴Department of Biochemistry, University of Washington

Corresponding Author

Ian R. Sweet

isweet@u.washington.edu

Citation

Grumbine, M.K., Kamat, V., Bao, K., Crupi, T., Mokate, K., Lim, R., Chao, J.R., Robbins, B.M., Hass, D.T., Hurley, J.B., Sweet, I.R. Maintaining and Assessing Various Tissue and Cell Types of the Eye Using a Novel Pumpless Fluidics System. *J. Vis. Exp.* (197), e65399, doi:10.3791/65399 (2023).

Date Published

July 14, 2023

DOI

10.3791/65399

URL

jove.com/video/65399

Materials

Name	Company	Catalog Number	Comments
BIOLOGICAL SAMPLES			
C57BL/6J mice	Envigo Harlan (Indianapolis, IN)	N/A	
REAGENTS			
FCCP	Sigma-Aldrich	C2920L9795	
Glucose	Sigma-Aldrich	G8270G	
KCN	Sigma-Aldrich	60178	
Lactate	MilliporeSigma	L6661	
Oligomycin A	Sigma-Aldrich	75351L9795	
CELL CULTURE AND TISSUE HARVESTING			
Beuthanasia-D	Schering-Plough Animal Health Corp., Union, NJ	N/A	
Bovine serum albumin	Sigma-Aldrich	A3059	
Euthasol, 390 mg/ml sodium pentobarbital	Virbac	RXEUTHASOL	
Fetal bovine serum	Sigma-Aldrich	12303C	
Hank's Buffered Salt Solution	GIBCO	14065056	
Krebs Ringer Bicarbonate (KRB)	Thermo Fisher Scientific	J67795L9795	
Matrigel	ThermoFisher	#CB-40230	
Penicillin-streptomycin	ThermoFisher Scientific	15140122	
ROCKi	Selleck Chemicals	Y-27632	
Trypsin-EDTA	ThermoFisher	#25-200-072	
SUPPLIES			
Gas Cylinders: 21% O2/5% CO2/ balance N2	Praxair Distribution, Inc	N/A	
Transwell filters	MilliporeSigma	3470	

COMMERCIAL ASSAYS			
Amplex Red Glucose/Glucose Oxidase Assay Kit	ThermoFisher	A22189	
Glucose Oxidase from <i>Aerococcus viridans</i>	Invitrogen (Carlsbad, CA)	A22189L9795	
Lactate Oxidase	Sigma-Aldrich	L9795	
EQUIPMENT			
BaroFuse Multi-Channel Perifusion system	EnTox Sciences, Inc (Mercer Island, WA)	Model 001-08	
Synergy 4 Fluorometer	BioTek (Winooski, VT)	S4MLFPTA	