

Materials List for:

Studying Normal Tissue Radiation Effects using Extracellular Matrix Hydrogels

Steven M Alves¹, Tian Zhu¹, Anastasia Shostak¹, Ninna S. Rossen², Marjan Rafat^{1,3,4}

¹Department of Chemical and Biomolecular Engineering, Vanderbilt University

²Department of Radiation Oncology, Stanford University

³Department of Biomedical Engineering, Vanderbilt University

⁴Department of Radiation Oncology, Vanderbilt University Medical Center

Correspondence to: Marjan Rafat at marjan.rafat@vanderbilt.edu

URL: <https://www.jove.com/video/59304>

DOI: [doi:10.3791/59304](https://doi.org/10.3791/59304)

Materials

Name	Company	Catalog Number	Comments
10% Neutral Buffered Formalin, Cube with Spigot	VWR	16004-128	-
2-methylbutane	Alfa Aesar	19387	-
AR 2000ex Rheometer	TA Instruments	10D4335	rheometer
Bovine Serum Albumin	Sigma-Aldrich	A1933-25G	-
calcein acetoxymethyl (calcein AM)	Molecular Probes, Inc.	C1430	-
D-Luciferin Firefly, potassium salt	Biosynth Chemistry & Biology	L-8820	(S)-4,5-Dihydro-2-(6-hydroxy-2-benzothiazolyl)-4-thiazolecarboxylic acid potassium salt
DPX Mountant for Histology	Sigma-Aldrich	06522-500ML	-
Dulbecco's phosphate-buffered saline	Gibco	14040133	-
Eosin-Y with Phloxine	Richard-Allan Scientific	71304	eosin
ethidium homodimer	Molecular Probes, Inc.	E1169	ethidium homodimer-1 (EthD-1)
Fetal Bovine Serum	Sigma-Aldrich	F0926-500ML	-
Fisher Healthcare Tissue-Plus O.C.T. Compound	Fisher Scientific	23-730-571	cryostat embedding medium
Fluoromount-G	SouthernBiotech	0100-01	aqueous based mounting medium
FreeZone 4.5	Labconco	7751020	lyophilizer
Hoechst 33342 Solution (20 mM)	Thermo Scientific	62249	blue fluorescent dye
Hydrochloric acid	Sigma-Aldrich	258148-500ML	-
IVIS Lumina III	PerkinElmer	CLS136334	bioluminescence imaging system
Kimtech Science Kimwipes	Kimberly Clark		delicate task wipes
n-Propanol (Peroxide-Free/Sequencing), Fisher BioReagents	Fisher Scientific	BP1130-500	-
Oil Red O	Sigma-Aldrich	O0625-25G	1-([4-(Xylylazo)xylyl]azo)-2-naphthol
OPS Diagnostics CryoGrinder	OPS Diagnostics, LLC	CG-08-02	-
PBS (10X), pH 7.4	Quality Biological, Inc.	119-069-151	Phosphate-buffered saline
Penicillin-Streptomycin	Gibco	15140-122	-
Pepsin from porcine gastric mucosa	Sigma-Aldrich	P6887-5G	pepsin
Peracetic acid	Sigma-Aldrich	77240-100ML	-

Phalloidin-iFluor 594 Reagent (ab176757)	abcam	ab176757	phalloidin conjugate
Propylene glycol	Sigma-Aldrich	W294004-1KG-K	-
Richard-Allan Scientific Signature Series Bluing Reagent	Richard-Allan Scientific	7301L	bluing agent
Richard-Allan Scientific Signature Series Hematoxylin 7211	Richard-Allan Scientific	7211	-
RPMI Medium 1640	Gibco	11875-093	-
Sodium deoxycholate, 98%	Frontier Scientific	JK559522	deoxycholic acid
Sucrose	Sigma-Aldrich	S5016	-
Triton x-100	Sigma-Aldrich	X100-100ML	<i>t</i> -Octylphenoxy polyethoxyethanol
Trypsin-EDTA (0.25%), phenol red	Gibco	25200-056	-
Whatman qualitative filter paper, Grade 4	Whatman	1004-110	grade 4 qualitative filter paper
Xylenes (Certified ACS), Fisher Chemical	Fisher Scientific	X5-4	-