

Hydrogel Arrays Enable Increased Throughput for Screening Effects of Matrix Components and Therapeutics in 3D Tumor Models

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Materials

Name	Company	Catalog Number	Comments
1.1 kOhm resistors, 6 W	Digikey	35601k1ft	
1.7 mL microcentrifuge tube	Genesee Scientific	21-108	
15 mL conical tube	Fisher Scientific	14-959-70C	
365 nm LED	Digikey	ltp-l-c034uvh365	
384 well plate	Bio Greiner One	781090	
40 µm cell strainer	MTC bio	C4040	
4-Armed thiol terminated polyethylene glycol (20 kDa)	Laysan Bio	4arm-PEG-SH-20K-1g	
6 NPN BJTs	Digikey	2n5550ta	
80 Ohm resistors, 0.125 W	Digikey	erj-6enf80r6v	
8-Armed norbornene terminated polyethylene glycol (20 kDa)	Jenkem Technology	A7025-1	
Accutase	Innovative Cell Technologies	AT104500	cell dissociation reagent
AFM Probes	Novascan		0.01 N/m Nominal spring constant, 2.5 µm SiO ₂ particle
Arduino IDE	Arduino	1.8.19	
Arduino Nano	Makerfire	Mini Nano V3.0 ATmega328P Microcontroller Board	
bFGF	Peptotech	100-18B	20 ng/mL
CCK8	Abcam	ab228554	
Centrifuge	Thermoscientific	sorvall legend xtr	
CP100ST	Gilson	F148415	Pipette tips for positive displacement pipette
Cubis Semi-Micro Balance	Sartorius	MSA225S100DI	

DMEM - F12 (50-50)	Life Technologies	11330057	1x
DMSO	Fisher Scientific	BP231-100	
DPBS Ca (-) Mg (-)	Genesee Scientific	25-508	
EGF	Peprtech	AF100-15	50 ng/mL
Ethanol, Anhydrous	Fisher Scientific	A405P	Add DI water to dilute to 70%
Fisherbrand Class B Amber Glass threaded vials	Fisher Scientific	03-339-23C	
Fisherbrand Weighing Paper	Fisher Scientific	09-898-12B	
G21 Supplement	Gemini Bio	400-160	50x
Hanks Balanced Salt Solution	Thermo Fisher Scientific	14175095	
HCl, ACS, 12M	Sigma Aldrich	S25838A	Add DI water to dilute to 1 M
Heparin sodium salt from porcine intestinal mucosa	Sigma Aldrich	H3149-100Ku	25 µg/mL
HEPES	Sigma Aldrich	H7006-100G	
Hot Air Gun	Wagner	HT1000	
Integrin-binding sialoprotein (IBSP) peptide	Genscript	Custom Order	GCGYGGGGNGEPRGDTYRAY
Lithium phenyl-2,4,6 trimethylbenzoylphosphinate (LAP) , >95%	Sigma Aldrich	900889-1G	
Magnetic stir plate	Thermo Scientific	SP194715	
Microcentrifuge	Thermo Scientific	Sorvall legend micro 21R	
Microman E single Channel Pipettor	Gilson	FD10004	Positive displacement pipette
Micropipette Tips	Various Manufacturs		Various sizes
mLine micropipette	Sartorius		
N-acetyl Cysteine	Sigma Aldrich	A7250-10G	
Nanowizard 4	Bruker		AFM microscope
NaOH	Fisher Scientific	ss255-1	Add DI water to dilute to 1 M
Normoicin	Invivogen	ant-nr-1	500x
Osteopontin Peptide	Genscript	Custom Order	GCGYGTVDVPDGRGDSLAYG
Pipet Aid	Drummond	4000102	
Plain Microscope Slides	Globe Scientific	1301	
Press-To-Seal silicone Isolator, 12-4.5mm diam x 2mm deep	Grace Bio Labs	664201-A	Cut so that 8 individual molds are made from a single sheet
Processing	Processing	3.5.4	
Repeater M4	Eppendorf	4982000322	
Repeater Pipette Tips	Sartorius	30089430	1 mL sizes
RGD Peptide	Genscript		GCGYGRGDSPG
Scotch Tape			
Serological Pipettes	Genesee Scientific	12-102,12-104	5,10 mL Pipettes
Solder Paste	Digikey	315-NC191LT15T5-ND	
Solder Wire			
Straight dissecting forceps	VWR Scientific	82027-408	
Synergy H1 Plate Reader	Biotek		
T-75 Cell Culture Treated Flask	Genesee Scientific	25-209	
Temozolomide	Sigma Aldrich	T2577	Typically used from 10 µM to 100 µM
Tenascin-C Peptide	Genscript		GCGYGRSTDLPGLKAATHYITIRGV
Thiolated Hyaluronic Acid (700 kDa), 6-8% modified	Lifecore Biomedical	HA700K5	

VWR Spinbar, Flea Micro	VWR	58948-375	
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