

Materials List for:

Human Pluripotent Stem Cell Culture on Polyvinyl Alcohol-Co-Itaconic Acid Hydrogels with Varying Stiffness Under Xeno-Free Conditions

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URL: <https://www.jove.com/video/57314>

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Materials

Name	Company	Catalog Number	Comments
GTPGPQGIAGQRGVV	PH Japan	none	Specification: Oligopeptide Abbreviation: Cyclic RGD, cRGD
GACRGDCLGA	PH Japan	none	Specification: Oligopeptide Abbreviation: FN1
KGGAVTGRGDSPASS	PH Japan	none	Specification: Oligopeptide Abbreviation: CS1
EILDVPST	PH Japan	none	Specification: Oligopeptide Abbreviation: VN1
KGGPQVTRGDVFTMP	PH Japan	none	Specification: Oligopeptide Abbreviation: HBP1
GKKQRFRHRNRKG	PH Japan	none	Specification: Oligopeptide Abbreviation: HBP2C
CGGGKKQRFRHRNRKG	PH Japan	none	Specification: Oligopeptide Abbreviation: VN1G
GGGGKGGPQVTRGDVFTMP	PH Japan	none	Specification: Oligopeptide Abbreviation: VN2C
GCGGKGGPQVTRGDVFTMP	PH Japan	none	Specification: Extracellular matrix Abbreviation: rVN
Vitronectin	Thermo Fisher scientific	A14700	Specification: Extracellular matrix Abbreviation: FN
Fibronectin	Sigma-Aldrich	F2006	Specification: Commercially available coating material Abbreviation: Synthemax II
Synthemax II	Corning	3535	Specification: Polymer
Polyvinylalcohol-co-itaconic acid	Japan VAM & Poval	AF-17	Specification: Chemical
Glutaraldehyde	Sigma-Aldrich	G5882	Specification: Chemical
Na ₂ SO ₄	Sigma-Aldrich	239313	Specification: Chemical
H ₂ SO ₄	Sigma-Aldrich	339741	Specification: Chemical Abbreviation: EDC
N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride	Sigma-Aldrich	E7750	Specification: Chemical Abbreviation: NHS

N-hydroxysuccinimide	Sigma-Aldrich	56480	Specification: Chemical
Paraformaldehyde	Sigma-Aldrich	P6148	Specification: Chemical
Triton-X100	Sigma-Aldrich	T8787	Specification: Cell culture consumable
Cell scraper	Corning	3008	Specification: Cell culture consumable
Dispase II	Sigma-Aldrich	SI-D4693	Specification: Cell culture medium
Essential 6	Thermo Fisher scientific	A1516401	Specification: Cell culture medium
Essential 8	Thermo Fisher scientific	A1517001	Specification: Cell culture medium
DMEM/F12	Thermo Fisher scientific	11330-032	Specification: Cell culture medium
DMEM	Thermo Fisher scientific	12800-017	Specification: Cell culture medium
MCDB 201	Sigma-Aldrich	M6770	Specification: ES cell
Human ES cell	WiCell Research Institute, Inc..	WA09	Specification: iPS cell
Human iPS cell	Riken Cell Bank	HS0077	Specification: 35 mm Abbreviation: TCP
TCP dish	Corning	353001	Specification: 60 mm Abbreviation: TCP
TCP dish	Corning	353002	Specification: 24 well dish
24 well dish	Corning	353047	Specification: Blocking agent
Bovine serum albumin	Sigma-Aldrich	A8806	Specification: Detection reagent
Alkaline phosphatase live stain	Thermo Fisher scientific	A14353	Specification: Detection reagent
Hematoxylin & eosin	Sigma-Aldrich	1.05175	Specification: EB formation dish
6-well ultralow attachment dish	Corning	3471	Specification: Coating material
gelatin	Sigma-Aldrich	G9391	Specification: Coating material
Matrigel	Corning	354230	Specification: Mice
NOD-SCID mice	National Applied Research Laboratories	None	Specification: Serum
Fetal bovine serum	Biological Industries	04-001-1A	Specification: Antibiotic
antimycotic antibiotic	Thermo Fisher scientific	15240-062	Specification: Antibody
Antibody for Nanog	Invitrogen	MA1-017	Specification: Antibody
Antibody for SSEA4	Abcam	ab16287	Specification: Antibody
Antibody for OCT3/4	Invitrogen	PA5-27438	Specification: Antibody
Antibody for Sox2	Invitrogen	48-1400	Specification: Antibody
Antibody for Smooth Muscle Actin	Invitrogen	PA5-19465	Specification: Antibody
Antibody for AFP	Invitrogen	PA5-21004	Specification: Antibody
Antibody GFAP	Invitrogen	MA5-15086	Specification: Antibody
Alexa Fluor 555 – conjugated Goat anti-Mouse antibody	Invitrogen	A-21422	Specification: Antibody
Alexa Fluor 488 – conjugated Goat anti-Rabbit antibody	Invitrogen	A-11008	Specification: Antibody