

Materials List for

A Two-Step Strategy that Combines Epigenetic Modification and Biomechanical Cues to Generate Mammalian Pluripotent Cells

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Materials

Name	Company	Catalog Number	Comments
2-Mercaptoethanol	Sigma-Aldrich	M7522	Component of ESC medium
5-Azacytidine	Sigma-Aldrich	A2385	5-aza-CR, for fibroblast epigenetic erasing
Adenosine	Sigma-Aldrich	A4036	Component of nucleoside mix for ESC medium
Antibiotic Antimycotic Solution (100×)	Sigma-Aldrich	A5955	Component of fibroblast and ESC media
CFX96 Real-Time PCR	Bio-Rad Laboratories	NA	Thermal cycler for quantitative PCR
Cytidine	Sigma-Aldrich	C4654	Component of nucleoside mix for ESC medium
DMEM, high glucose, pyruvate	Thermo Fisher Scientific	41966052	For fibroblast isolation and culture medium
DMEM, low glucose, pyruvate	Thermo Fisher Scientific	31885023	For ESC medium
Dulbecco's Phosphate Buffered Saline	Sigma-Aldrich	D5652	PBS; for biopsy and cell wash and for solution preparation
Dynabeads mRNA DIRECT Micro Purification Kit	Thermo Fisher Scientific	61021	mRNA estraction
ESGRO Recombinant Mouse LIF Protein	Sigma-Aldrich	ESG1106	Component of ESC medium
Fetal Bovine Serum, qualified, heat inactivated	Thermo Fisher Scientific	10500064	Component of fibroblast and ESC media
FGF-Basic (AA10-155) Recombinant Human Protein	Thermo Fisher Scientific	PHG0024	Component of ESC medium
Gelatin from porcine skin	Sigma-Aldrich	G1890	For dish coating
GeneAmp PCR System 2700	Applied Biosystems	NA	Thermal cycler for qualitative PCR
Global DNA Methylation ELISA Kit	CELL BIOLABS	STA-380	Methylation study
GoTaq G2 Flexi DNA Polymerase	Promega	M7801	Qualitative PCR

Guanosine	Sigma-Aldrich	G6264	Component of nucleoside mix for ESC medium
Ham's F-10 Nutrient Mix	Thermo Fisher Scientific	31550031	For ESC medium
KnockOut Serum Replacement	Thermo Fisher Scientific	10828028	Component of ESC medium
KOVA glass slide 10 with grids	Hycor Biomedical	87144	For cell counting
Leica MZ APO Stereo Microscope	Leica	NA	For organoid observation
L-Glutamine solution	Sigma-Aldrich	G7513	Component of fibroblast and ESC media
MEM Non-Essential Amino Acids Solution (100X)	Thermo Fisher Scientific	11140035	Component of ESC medium
Millex-GS 0.22 µm pore filters	Millipore	SLGS033SB	For solution sterilization
M-MLV Reverse Transcriptase, RNase H Minus, Point Mutant	Promega	M3681	mRNA reverse transcription
Multiskan FC Microplate Photometer	Thermo Fisher Scientific	51119000	For ELISA plate reading
Nikon Eclipse TE300 Inverted Phase Contrast Microscope	Nikon	NA	For cell observation
Perkin Elmer Thermal Cycler 480	Perkin Elmer	NA	Thermal cycler for reverse transcription
Poly(tetrafluoroethylene) 1 µm particle size	Sigma-Aldrich	430935	For generating micro-bioreactor
PureLink Genomic DNA Mini Kit	Thermo Fisher Scientific	K182001	Genomic DNA extraction
TaqMan Gene Expression Cells-to-CT Kit	Thermo Fisher Scientific	AM1728	Quantitative PCR
Thymidine	Sigma-Aldrich	T1895	Component of nucleoside mix for ESC medium
Tissue Culture Dish 100X20 mm, Standard	Sarstedt	833902	For fibroblast isolation
Tissue Culture Dish 35X10 mm, Standard	Sarstedt	833900	For Fibroblast isolation
Tissue Culture Dish 35X10 mm, Suspension	Sarstedt	833900500	Bacteriology petri dish for liquid marble culture
Tissue Culture Plate 96 Well, Standard, F	Sarstedt	833924005	For liquid marble culture
Trypsin-EDTA solution	Sigma-Aldrich	T3924	For fibroblast dissociation
Tube 15ml, 120x17mm, PS	Sarstedt	62553041	For cell suspension centrifugation
Uridine	Sigma-Aldrich	U3003	Component of nucleoside mix for ESC medium