

An Automated Culture System for Maintaining and Differentiating Human-Induced Pluripotent Stem Cells

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Materials

Name	Company	Catalog Number	Comments
0.15% bovine serum albumin fraction V	Fuji Film Wako Chemical Inc., Miyazaki, Japan	9048-46-8	
1% GlutaMAX	Thermo Fisher Scientific	35050061	
10 cm plastic plates	Corning Inc., NY, United States	430167	
253G1	RKEN Bioresource Research Center	HPS0002	
2-mercaptoethanol	Thermo Fisher Scientific	21985023	
Actinin mouse	Abcam	ab9465	
Activin A	Nacali Tesque	18585-81	
Adenine	Thermo Fisher Scientific	A14906.30	
Albumin rabbit	Dako	A0001	
All-trans retinoic acid	Fuji Film Wako Chemical Inc.	186-01114	
Automated culture system	Panasonic		
B-27 supplement	Thermo Fisher Scientific	17504044	
bFGF	Fuji Film Wako Chemical Inc.	062-06661	
BMP4	Thermo Fisher Scientific	PHC9531	
Bovine serum albumin	Merck	810037	
CHIR-99021	MCE, NJ, United States #HY-10182	252917-06-9	
Defined Keratinocyte-SFM	Thermo Fisher Scientific	10744019	Human keratinocyte medium
Dexamethasone	Merck	266785	
Dihexa	TRC, Ontario, Canada	13071-60-8	rac-1,2-Dihexadecylglycerol
Disposable hemocytometer	Countess™ Cell Counting Chamber Slides, Thermo Fisher Scientific	C10228	
Dorsomorphin	Thermo Fisher Scientific	1219168-18-9	
Dulbecco's modified Eagle medium/ F12	Fuji Film Wako Chemical Inc.	12634010	
EGF	Fuji Film Wako Chemical Inc.	053-07751	
Essential 8	Thermo Fisher Scientific	A1517001	Human pluripotent stem cell medium
Fetal bovine serum	Biowest, FL, United States	S140T	

FGF-basic	Nacalai Tesque Inc.	19155-07	
Forskolin	Thermo Fisher Scientific	J63292.MF	
Glutamine	Thermo Fisher Scientific	25030081	Glutamine supplement
Goat IgG(H+L) AlexaFluo546	Thermo Scientific	A11056	
HNF-4A goat	Santacruz	6556	
Hydrocortisone	Thermo Fisher Scientific	A16292.06	
Hydrocortisone 21-hemisuccinate	Merck	H2882	
iMatrix511 Silk	Nippi Inc., Tokyo, Japan	892 021	Cell culture matrix
Insulin-transferrin-selenium	Thermo Fisher Scientific	41400045	
Keratin 1 mouse	Santacruz	376224	
Keratin 10 rabbit	BioLegend	19054	
KMUR001	Kansai Medical University		Patient-derived iPSCs
Knockout serum replacement	Thermo Fisher Scientific	10828010	
L-ascorbic acid 2-phosphate	A8960, Merck	A8960	
Leibovitz's L-15 medium	Fuji Film Wako Chemical Inc.	128-06075	
Matrigel	Corning Inc.	354277	
Mouse IgG(H+L) AlexaFluo488	Thermo Scientific	A21202	
N-2 supplement	Thermo Fisher Scientific	17502048	
Nestin mouse	Santacruz	23927	
Neurobasal medium	Thermo Fisher Scientific	21103049	
Neurofilament rabbit	Chemicon	AB1987	
Neutristem	Sartrius AG, Göttingen, Germany	05-100-1A	cell culture medium
Oct 3/4 mouse	BD	611202	
PBS(-)	Nacalai Tesque Inc., Kyoto, Japan	14249-24	
Rabbit IgG(H+L) AlexaFluo488	Thermo Scientific	A21206	
Rabbit IgG(H+L) AlexaFluo546	Thermo Scientific	A10040	
Recombinant human albumin	A0237, Merck, Darmstadt, Germany	A9731	
Rho kinase inhibitor, Y-27632	Sellec Inc., Tokyo, Japan	129830-38-2	
RIKEN 2F	RKEN Bioresource Research Center	HPS0014	undifferentiated hiPSCs
RPMI 1640	Thermo Fisher Scientific #11875	12633020	
SB431542	Thermo Fisher Scientific	301836-41-9	
Sodium L-ascorbate	Merck	A4034-100G	
SSEA-4 mouse	Millipore	MAB4304	
StemFit AK02N	Ajinomoto, Tokyo, Japan	AK02	cell culture medium
TnT rabbit	Abcam	ab92546	
TRA 1-81 mouse	Millipore	MAB4381	
Triiodothyronine	Thermo Fisher Scientific	H34068.06	
TripLETM express enzyme	Thermo Fisher Scientific, Waltham, MA, United States	12604013	
Trypan blue solution	Nacalai Tesque, Kyoto, Japan	20577-34	
Tryptose phosphate broth	Merck	T8782-500G	
Wnt-C59	Bio-technie, NB, United Kingdom	5148	
β III Tublin mouse	Promega	G712A	