

Materials List for:

Generation of Mice Derived from Induced Pluripotent Stem Cells

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Materials

Name	Company	Catalog Number	Comments
DMEM (high glucose)	Invitrogen	11965-092	
ES cell qualified FBS	Invitrogen	104392-024	
FBS	Invitrogen	16140-071	
Glutamax	Invitrogen	35050-061	
β-Mercapt–thanol	Sigma	Sigma M7522	
0.1% Gelatin	Millipore	ES006-B	
MEM Non-Essential Amino Acids	Invitrogen	11140	
Medium 199	Invitrogen	11150-059	
Penicillin/Streptomycin	Invitrogen	15140-122	
ESGRO (murine LIF)	Millipore	ESG1106	
Valproic Acid	Sigma	P4543	
DMSO	Fisher	BP231-100	
0.25% Trypsin-EDTA	Invitrogen	25200	
PBS Ca ²⁺ /Mg ²⁺	Invitrogen	14040-133	
PBS Ca ²⁺ /Mg ²⁺ free	Invitrogen	14190-144	
Pregnant mare serum gonadotropin, for superovulation, freeze-dried, 2,000 IU	Harbor-UCLA Research Institute	n/a	
Chorionic gonadotropin, human	Sigma	C1063	
FHM medium with Hyaluronidase	Millipore	MR-056-F	
KSOM-1/2 AA medium	Millipore	MR-106-D	
FHM	Millipore	MR-024-D	
Water, for embryo transfer, embryo tested	Sigma	W1503	
Mineral oil, embryo tested	Sigma	M5310	
CaCl ₂	Sigma	C7902	
MgSO ₄	Sigma	M2773	
D-Mannitol	Sigma	M4125	
Bovine serum albumin (BSA), embryo tested	Sigma	A3311	
Mouse embryonic fibroblasts, non-irradiated	Millipore	PMEF-CFL	

Media and buffers used in this protocol

HEK293T growth medium. 90% DMEM, 10% FBS, 100 U/ml penicillin and 10 mg/ml streptomycin. Exclude penicillin and streptomycin from HEK media used on day of transfection. HEK medium can be stored at 4 °C for up to 1 month.

2x HBS. 42 mM Hepes, 274 mM NaCl, 10 mM KCl, 1.5 mM $\text{Na}_2\text{HPO}_4 \cdot 7\text{H}_2\text{O}$, 12 mM Dextrose. pH to 7.1 +/- 0.1. pH is critical! Sterile filter and store at 4 °C.

Mouse embryonic fibroblast (MEF) growth medium (also for use with feeders). 70% DMEM, 20% Medium 199, 10% FBS, 100 U/ml penicillin and 10 mg/ml streptomycin. Store at 4 °C for up to 1 month.

ESC growth medium. 85% DMEM, 15% ES cell qualified FBS, 1x Glutamax, 0.1 mM non-essential amino acids, 0.1 mM β -mercapt-ethanol, 1,000 U/ml ESGRO, 100 U/ml penicillin and 10 mg/ml streptomycin. ESC media can be stored at 4 °C for up to three weeks.

Electrofusion medium. 0.3 M Mannitol, 0.1 mM MgSO_4 , 50 mM CaCl_2 , and 3% BSA in embryo tested water. Store at 4 °C for up to 3 months.