

Materials List for:

Derivation of T Cells *In Vitro* from Mouse Embryonic Stem Cells

Martina Kučerová-Levisohn¹, Jordana Lovett¹, Armin Lahiji¹, Roxanne Holmes², Juan Carlos Zúñiga-Pflücker², Benjamin D. Ortiz¹

¹Department of Biological Sciences, Hunter College and Graduate Center, City University of New York

²Sunnybrook Research Institute, Department of Immunology, University of Toronto

Correspondence to: Benjamin D. Ortiz at Ortiz@genectr.hunter.cuny.edu

URL: <https://www.jove.com/video/52119>

DOI: [doi:10.3791/52119](https://doi.org/10.3791/52119)

Materials

Name	Company	Catalog Number	Comments
DMEM	Corning	15-013-CV	
Stem cell qualified FBS	Gemini	100-125	Heat inactivated
Penicillin/Streptomycin	Corning	30-002-CI	
L-alanyl L-glutamine	Corning	25-015-CI	
HEPES buffer	Millipore	TMS-003-C	
Non-Essential Amino Acids	ThermoScientific	SH30853.01	
Gentamicin Regent Solution (50 mg/ml)	Life Technologies	15750-060	
β-mercaptoethanol (55 mM) in DPBS	Life Technologies	21985-023	
Filter Unit	Millipore	SCGPU05RE	0.22 μm PES membrane
Cell Culture Grade Water	Corning	25-055-CM	
α-MEM	Life Technologies	12000-022	Powder, reconstitute per manufacture recommendation
Sodium bicarbonate	Sigma	S5761-500G	
FBS	ThermoScientific	SH 30396.03	Testing of individual lots required
Dimethyl Sulphoxide	Sigma	D2650	
Recombinant Human Flt-3 Ligand	R&D Systems	308-FK	
Recombinant Murine IL-7	PeptoTech	217-17	
LIF	Millipore	ESG1107	
Utrapure water with 0.1% gelatin	Millipore	ES-006-B	
MEFs mitomycin C treated	Millipore	PMEF-CF	Any mitotically arrested MEFs can be used
DPBS	Corning	21-031-CV	
Cell strainer (40 μm)	Fisher	22363547	
Tissue culture dish 100 x 20 mm	BD Falcon	353003	
Multiwell 6-well	BD Falcon	353046	
1.5 ml microcentrifuge tubes	USA Scientific	1615-5500	
15 ml centrifuge tubes	BD Falcon	352096	
50 ml centrifuge tubes	BD Falcon	352070	
5 ml Polystyrene Round-Bottom Tube with Cell-Strainer Cap	BD Falcon	352235	Tubes for FACS
ES R1 cells	ATCC	SCRC-1011	
OP9 cells			Cells can be obtained from the Riken Laboratory Cell Repository (Japan).

OP9-DL1 cells			Cells can be requested from the Zúñiga-Pflücker laboratory.
FlowJo software	Tree Star		FACS data analyses
Flow Cytometer	BD		FACScan, FACSCalibur and FACS Vantage have been used in our lab