

Materials List for:

Construction and Use of an Electrical Stimulation Chamber for Enhancing Osteogenic Differentiation in Mesenchymal Stem/Stromal Cells In Vitro

Liudmila Leppik¹, Mit B. Bhavsar¹, Karla M.C. Oliveira¹, Maria Eischen-Loges¹, Sahba Mobini^{1,2}, John H. Barker¹

¹Frankfurt Initiative for Regenerative Medicine, Johann Wolfgang Goethe-University

²J. Crayton Pruitt Family Department of Biomedical Engineering, University of Florida

Correspondence to: Liudmila Leppik at Liudmila.Leppik@kgu.de

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Materials

Name	Company	Catalog Number	Comments
Estim fabrication			
Banana connector/Jack adaptor	Popstars	1008554	2 pieces
Cutting pliers	Knipex	78 03 125	
DC power supply (0-30V/0-3A)	B&K Precision	Model 9130B	Any similar model could be used
Insulated flexible wires (0.14 mm ²)	Conrad Electronic International	604794, 604093	2 pieces
Non-corrosive silicone rubber	Dow Corning	3140 RTV	*could be purchased by many stores
Platinum Wire (999,5/1000; 1mm ø)	Junker Edelmetalle	00D-3010	0.6 m needed for 1 Estim chamber
70% Ethanol solution	any		Sterilisation of Estim chamber
Silver coated copper wire (0.6 mm ø)	Conrad Electronic International	409334 - 62	≈70 cm needed for 1 Estim device
Soldering iron Set	Conrad Electronic International	1611410 - 62	Any similar model could be used
TPP 6-well plate lid	Sigma-Aldrich	Z707759-126EA	2 lids for Estim chamber
2.2V wired circular LEDs	Conrad Electronic International	599525 - 62	6 pieces
UHU Super glue	UHU GmbH & Co. KG	n/a	*could be purchased by many stores
MSC culture			
β-Glycerophosphate disodium salt hydrate	Sigma-Aldrich	G9422	osteogenic cell culture
DMEM, low glucose, GlutaMAX Supplement, pyruvate	Thermo-Fischer Scientific	21885025	cell culture
DPBS, no calcium, no magnesium	Thermo-Fischer Scientific	14190144	cell culture
Dexamethasone	Sigma-Aldrich	D4902	osteogenic cell culture
Fetal Bovine Serum	Thermo-Fischer Scientific	10500064	cell culture
50 ml Falcon tube	Sarstedt	62,547,004	cell culture
L-Ascorbic acid	Sigma-Aldrich	A4544	osteogenic cell culture
Penicillin/Streptomycin	Thermo-Fischer Scientific	15140122	cell culture
Sprague-Dawley (SD) rat mesenchymal stem cells, bone marrow origin	Cyagen	RASMX-01001	cell culture
Cell detachment solution	Thermo-Fischer Scientific	A1110501	cell culture, cell detachment
TC Flask, T75	Sarstedt	833911302	cell culture
TPP 6-well plates	Sigma-Aldrich	Z707759-126EA	cell culture
Trypan Blue Dye, 0.4% solution	Bio-Rad	1450021	cell count