

Materials List for

# Preparation and Characterization of Graphene-Based 3D Biohybrid Hydrogel Bioink for Peripheral Neuroengineering

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## Materials

Name	Company	Catalog Number	Comments
Centrifugal	Hitachi		Used in cell culture and biomaterial step
0.1N CaCl <sub>2</sub>	HD Bioink		Used for crosslinker
0.22 µm membrane filter	Aisimo		Used for sterilization
0.45 µm syringe filter	Aisimo		Used for sterilization
1.5mL conic tube	Eppendorfa		Used for bioink drop
15mL Falcon tube	Nest		Used in cell culture step
25 cm <sup>2</sup> cell culture flasks (Falcon, TPP tissue culture flasks)	Nest		Used for cell culture
3D Bioprinting	Axolotl Biosystems Bio A2 (Turkey)		Bioprinting Step
50 mL Falcon tube	Nest		Used in cell culture step
6/24/48/96 well plates (Falcon, TPP microplates)	Merck Millipore		Used in cell culture step
75 cm <sup>2</sup> cell culture flasks (Falcon, TPP tissue culture flasks)	Nest		Used for cell culture
Anti mouse IgG-FTIC-rabbit	Santa Cruz Biotechnology	J1514	Seconder antibody, used for dye
Anti mouse IgG-SC2781-goat	Santa Cruz Biotechnology	C3109	Seconder antibody, used for dye
Au coating device EM ACE600	Leica		for gold plating of biomaterial section before SEM imaging
Autoclave	NUVE-OT 90L		Used for the sterilization process.
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Cell Cultre Cabine	Hera Safe KS		Used for the cell culture process

Dulbecco's Modified Eagle's Medium/ Nutrient Mixture-F12	Sigma	RNBj7249	Used as cell culture medium
FEI QUANTA 450 FEG ESEM SEM	Quanta	FEG 450	for SEM
Fetal Bovine Serum-FBS	Capricorn	FBS-16A	It was used by adding to the cell culture medium.
Freezer -80°C	Panasonic	MDF-U5386S-PE	We were used to store cells and the resulting exosomes
Gelatine-Alginate bioink powder	HD Bioink		Used for produced bioink step
GFP labelled-WJ-MSCs	Virostem		Used for imaging to cell-bioink interaction
Graphene nanoplatelets (Graphene-IGP2)	Grafen Chemical Industries Co.		Used for production 3D-G bioink
Immunofluorescence antibodies (N-CAD; $\beta$ -III Tubulin)	Cell Signalling and Santa Cruz		Used for dye
JASCO 6600	Tetra		for FTIR
MTT Assay	Sigma		Viability testing
Penicilin/Streptomycin Solution	Capricorn	PB-S	It was added to the medium to prevent contamination in cell culture.
Thoma slide	Isolab		Used for counting the cell
Time-Lapse Imaging System	Zeiss Axio.Observer.Z1		Imaging
Trypsin-EDTA	Multicell		The flask was used to remove the cells covering the surface.
Vorteks	Biobase		For produced bioink step
WJ-MSCs	ATCC		Used for the cell culture process