

Materials List for:

Design, Surface Treatment, Cellular Plating, and Culturing of Modular Neuronal Networks Composed of Functionally Inter-connected Circuits

Sivan Kanner^{*1}, Marta Bisio^{*2}, Gilad Cohen³, Miri Goldin⁴, Marieteresa Tedesco⁵, Yael Hanein³, Eshel Ben-Jacob⁴, Ari Barzilai¹, Michela Chiappalone², Paolo Bonifazi^{1,4}

¹Department of Neurobiology, George S. Wise Faculty of Life Sciences, Tel-Aviv University

²Department of Neuroscience and Brain Technologies, Istituto Italiano di Tecnologia

³School of Electrical Engineering, Tel-Aviv University

⁴School of Physics and Astronomy, Tel-Aviv University

⁵Department of Informatics, Bioengineering, Robotics and System Engineering, University of Genova

*These authors contributed equally

Correspondence to: Paolo Bonifazi at paol.bonifazi@gmail.com

URL: <https://www.jove.com/video/52572>

DOI: [doi:10.3791/52572](https://doi.org/10.3791/52572)

Materials

Name	Company	Catalog Number	Comments
PDMS, Sylgard 184	Dow Corning		
Nalgene vacuum chamber	Thermo	5305-0609	
Poly-D-lysine PDL	Sigma	P7886	
Silicone grease - SILICAID 1010	aidchim Ltd	H3375	
Spin coater	Laurell - Technologies Corporation	WS-650-23	
12-well culture plate	Sigma	CLS3336	
5-Fluoro-2'-deoxyuridine	Sigma	F0503	
Uridine	Sigma	U3003	
MEA1060-Inv-BC	Multi Channel Systems		
TC02	Multi Channel Systems		
Pen Strep	Biological Industries Beit Haemek	03-033-1c	
B-27	Gibco	17504044	
glutaMAX	Gibco	35050-038	
MEM Minimum Essential Medium-Eagle	Biological Industries Beit Haemek	01-025-1B	
Micro Electrode Arrays 4Q	Multi Channel Systems	60-4QMEA1000iR-Ti-pr	cleaning manual: http://www.multichannelsystems.com
Silicon wafer	microchem	SU8-2075	Preparation protocol: http://www.microchem.com