



ISTITUTO ITALIANO
DI TECNOLOGIA

TITLE

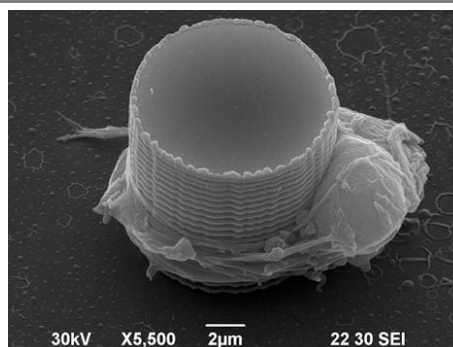
Novel method of 3D neuronal cell culture using a specific protocols and a nanostructured superhydrophobic substrate

INVENTORS

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DESCRIPTION

A novel method of 3D neuronal cell culture using a specific protocols and a superhydrophobic and nanostructured substrate is reported. Super-hydrophobic nanopatterned surfaces are realized with a texture given by a periodic hexagonal lattice of cylindrical silicon nano-patterned pillars. This particular type of superhydrophobic nanopatterned device allows the growth of neuronal cells in a 3D microenvironment. The device provides three-dimensional environments in which cells are able to mimic their *in vivo* counterparts; promotes cell growth and migration and is able to guide and promote neurite outgrowth during nerve regeneration.



APPLICATIONS

Tissue repair, cell scaffolds, rigid scaffolds for cell seeding

KEYWORDS

Neuronal cell culture, superhydrophobic nanostructured device, cell scaffold

BIBLIOGRAPHIC DATA TO2011A000331

Dispositivo per l'ottenimento di colture cellulari in tre dimensioni, procedimento per la sua realizzazione e impiego di tale dispositivo

Application Number	TO2012A000331
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Priority Date	April 17, 2012
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Applicants	Fondazione Istituto Italiano di Tecnologia
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