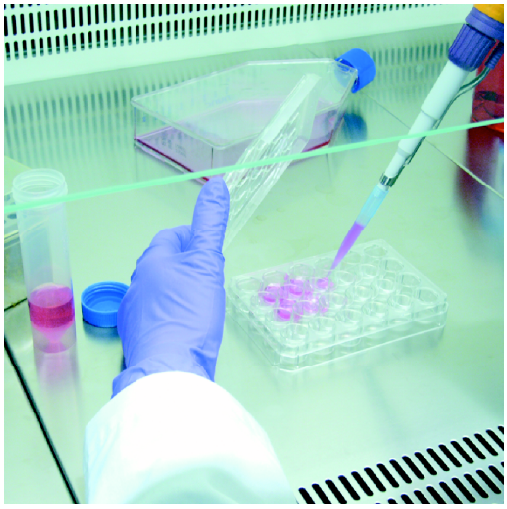
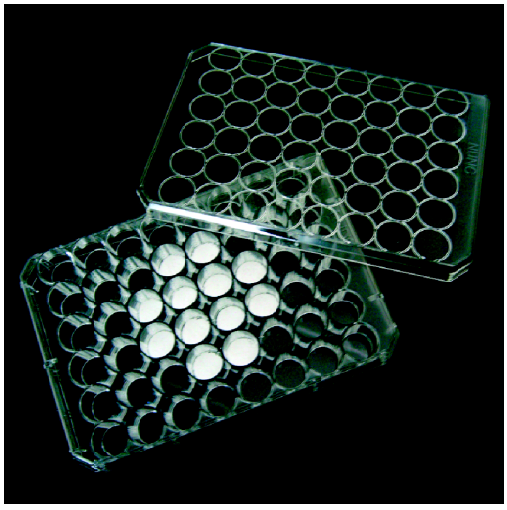
metis biomaterials

engineering life

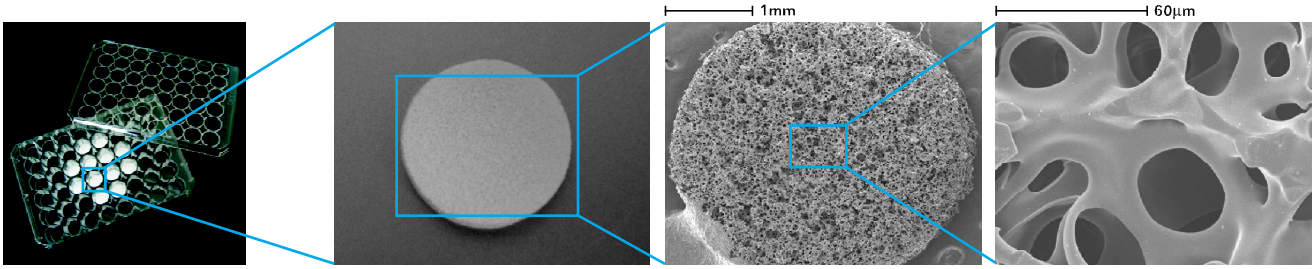
ADVANCED MATERIALS FOR CELL CULTURE IN REGENERATIVE MEDICINE





ADVANCED MATERIALS FOR CELL CULTURE

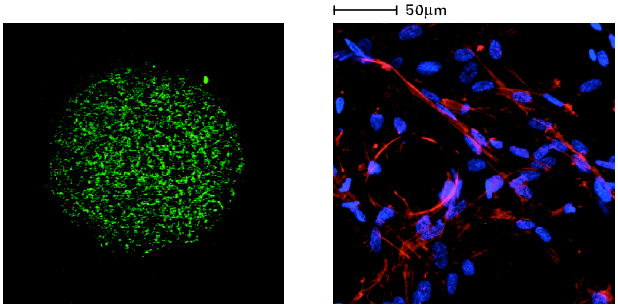
METIS BIOMATERIALS fabricates biostable as well as biodegradable materials compatible with conventional cell culture plates: flat materials with different chemical characteristics and porous materials with different internal microporous geometries. METIS BIOMATERIALS also fabricates microspheres and monofilaments as cell supports or as delivery systems in many different sizes.



Porous materials in a 48-well plate. Biostable porous scaffold. SEM picture at 25x magnification. Internal porosity at 500x magnification.

APPLICATIONS: Cell culture for

- Tissue engineering research
- Pharmacology research
- Toxicology research
- Cancer research



CLSM image of calcein-AM stained adherent HUVEC culture, 5 days after seeded onto a biostable scaffold previously coated with fibronectin.

MRC-5 CLSM image of F-Actin and nuclei stained with phalloidin toxin and Hoechst, respectively, 8 days after addition to scaffold.

PRODUCTS

MORFOLOGIES	COMPOSITIONS
2D Films	acrylates & methacrylates
3D Scaffolds	polycaprolactone
microspheres	polylactide acid
monofilaments	hyaluronic acid
	chitosan

PRODUCTS FEATURES

2D films and 3D scaffolds with identical chemical composition.
3D scaffolds with different internal porosity (spherical pores, cylindrical pores, ...) adapted to each application.
Materials of modulated rigidity and elasticity.
The products manufactured by METIS BIOMATERIALS are exclusively intended for in vitro research.

2D films with different surface properties

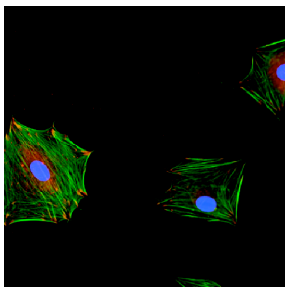
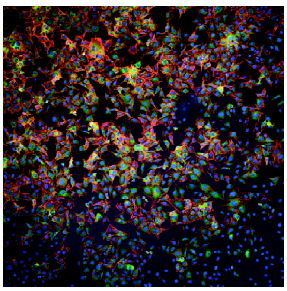


Image of primary human osteoblasts onto flat biodegradable material.
Green: actin; red: vinculin; blue: nuclei



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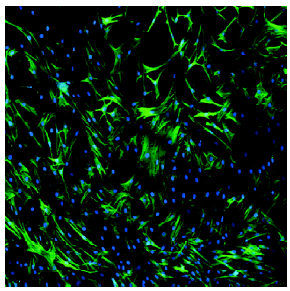
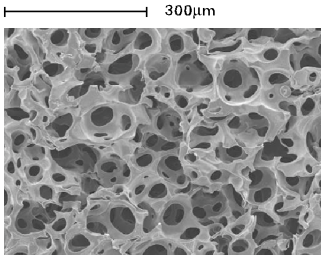


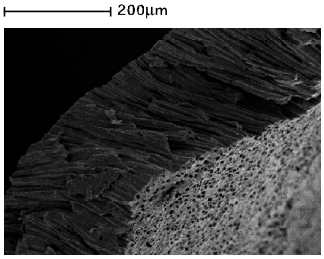
Image of primary human chondrocytes onto flat biodegradable material.
Green: actin. blue: nuclei

3D Scaffolds. Porous materials with different internal geometries

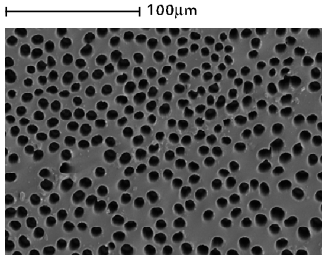
METIS BIOMATERIALS fabricates scaffolds in which (i) topological characteristics of the substrate (total porosity, shape and pore size, pore interconnection grade) and (ii) physico-chemical nature of the material are controlled independently.



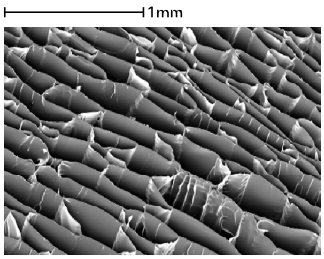
SEM image of a biostable copolymer scaffold (acrylates). Interconnected spherical internal geometry.



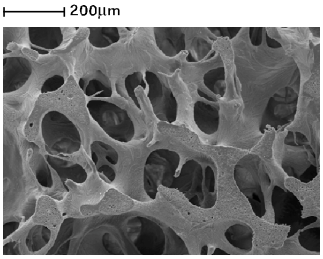
SEM image of a biostable copolymer scaffold (acrylates).
Aligned channels internal geometry.



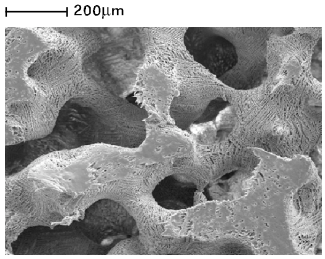
SEM image of a biostable copolymer scaffold (acrylates).
Aligned channels internal geometry at higher magnifications.



SEM image of a biodegradable scaffold (chitosan).
Honeycomb internal geometry.



SEM image of a biodegradable scaffold (polylactide acid). Trabecular-bone like internal geometry.



SEM image of a biodegradable scaffold (polycaprolactone). Trabecular-bone like internal geometry.

SERVICES

METIS BIOMATERIALS can help you to develop your company's ideas and can also look for solutions to your particular needs. We work hand-in-hand with our clients in the medical and biology fields, contributing our experience in materials science to develop new products and medical devices.

METIS BIOMATERIALS is a company that develops, fabricates and commercializes new materials for regenerative medicine. We make the last advances in biocompatible materials for cell growing available to our customers.

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