

Glossary

Artificial extracellular matrices are the engineered biomaterials that partially or fully mimic the composition, structure/morphology, and function of the in-vivo extracellular matrices.

Biopolymers are long chain molecules produced by the cells of living organisms.

Cleanrooms are facilities designed to maintain extremely low levels of particulates, such as dust, airborne organisms, or vaporized particles, and used for specialized industrial production or scientific research.

Etching masks are films on top of substrates with predefined patterns, which are more resistant to specific etchants than the substrates, for the selective removal of substrate materials according to the patterns.

Lab-on-a-chip is a device that integrates one or several laboratory functions on a circuit (called a "chip") of a few square centimeters.

Micro Total Analysis Systems (μ TAS) describe microscale systems that include and automate all necessary steps for chemical analysis of samples, e.g. sampling, sample transport, filtration, dilution, chemical reactions, separation and detection.

Microactuators are microscopic devices capable of generating mechanical motion of solids or fluids.

Microcontact printing is a type of soft lithography procedure where a microstructured elastomeric stamp is inked with a material solution to be then deposited by direct contact with the surface of the substrate.

Micro-Electro-Mechanical Systems (MEMS) are microsized systems consisting of miniaturized mechanical and electromechanical elements made by microfabrication techniques.

Microenvironments are the micrometer range environments of cells.

Microfabrication is a process that consists of designing, production, and characterization as well as application of patterns/structures, devices, and systems at the micrometer scale.

Microfluidics is the science and art on studying and engineering the behavior of small (often less than cubic millimeters) amounts of fluids.

Mix-pour-cure-peel sequence is a sequence of PDMS microstructure fabrication.

Photo(-reactive) resins are polymeric resins the solubility of which in the solution of a subsequent 'development' step changes when exposed to light, often in the ultraviolet or region.

Photolithography is a process used to create patterns on a photosensitive polymer film by selective exposure to light through a mask and subsequent 'development' using chemical agents.

Photomasks are plates used in photolithography with selective, patterned transparencies to allow light to pass selectively.

Polydimethylsiloxane (PDMS) is a widely used elastic polymer used for the fabrication of microfluidic devices or molds, stamps or masks for soft-lithography.

Soft-lithography is a set of techniques used to fabricate micro- or nanoscale structures by molding or transfer of materials onto substrates using elastomeric, "soft" molds or stamps.

Tissue micromolding is a process where biopolymers are molded into tissue like shapes.

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