

Glossary

Biocompatible (or Biocompatibility) is the ability of a material to perform its function with an appropriate host response without causing any undesirable local and systemic effects.

Bioprocess is a specific process that uses complete living cells or their components (e.g., bacteria, enzymes, chloroplasts) to obtain desired products.

Closed system is a physical system that does not allow transfer of matter in or out of the system.

Compression is the application of balanced inward forces to different points on a material or structure, to reduce its size in one or more directions.

Consumption rate is the average quantity of an item consumed or expended during a given time interval.

Culture parameters are a group of measurable factors that define a cell culture system or set the conditions of their operation.

Dynamic seeding uses agitation or perfusion of the cell suspension to actively increase cell seeding efficiency, uniformity, and/or penetration of cells into the scaffold.

Elimination rate is the rate at which a molecule is removed from a biological system.

Hydrostatic pressure is the pressure exerted by a fluid at equilibrium at a given point within the fluid.

Mass transport (in cell culture) is when materials are moved through the culture medium to the cell surface to deliver nutrients, remove waste or trigger communication between cells through soluble factors.

Mixing bioreactors are a specific type of bioreactors that homogeneously distribute nutrients, oxygen as well as cellular byproducts via stirring or oscillating and rocking components.

Non-invasive(ly) is not involving introduction of instruments in the culturing system.

Perfusion bioreactor is a continuous culturing method in which a directed flow of medium is applied to the cells or cell seeded scaffolds.

Scale-out is adding more components for capacity expansion.

Scaling up is the development of culture systems in stages from (small scale) laboratory to (large scale) industry.

Shear (force) is the component of stress parallel to the material cross section.

Sink is a reservoir that provides storage for a substance.

Strain is the opposite of compression. Thus, it represents a pulling force applied axially on an object which results in an increase of size in one direction.

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