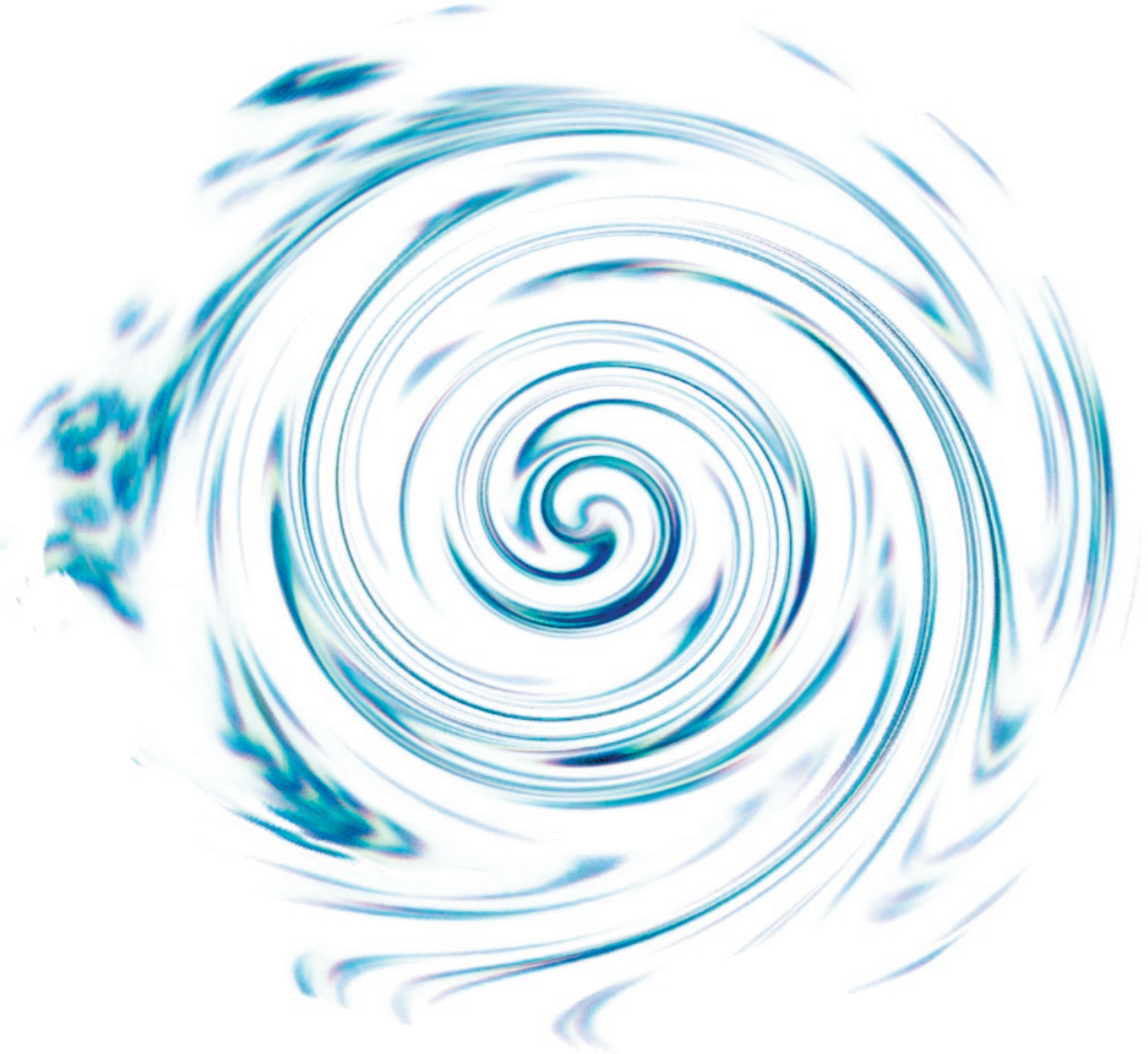
ZellWerk
Zellwerk GmbH·HiPer·Gruppe



Glen Mills®

Your agent for ZellWerk® Cell Culture systems:
Glen Mills Inc
973-777-0777
staff@glenmills.com www.glenmills.com

RP TECHNOLOGY

Competence in Cell Culture and Tissue Engineering

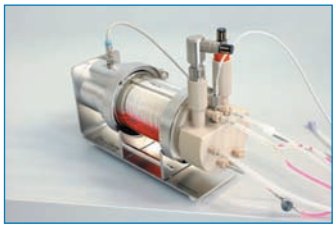
Z® RP TECHNOLOGY

´a new quality of cell- and tissue engineering´... Z® RP cell- and tissue culturing systems establish a unique technological platform for fast and controlled expansion of adherent cells. Complying with GLP, GCP, GTP and GMP standards Z® RP culturing systems enable users to grow cells in very high densities, inducing tissue-like organisation of cells embedded in their own extracellular matrix.
Zellwerk‘s Z® RP technology opens up completely new perspectives for regenerative medicine being the ideal tool for expansion and harvesting of primary cells and stem cells. The scope of therapeutical applications also includes tissue engineering and even production of complete implants made from colonized scaffolds. Moreover, the compact Z® RP cultivation system allows cost-efficient production of recombinant biopharmaceuticals, vaccines, vectors e. c. Researchers profit from the variability in culturing configurations speeding up development projects significantly.

A Z® RP cultivation system comprises of Z® RP bioreactor, Z® RP GMP Breeder and Z® RP control unit. Conducted in the sterile environment of a Z® RP GMP Breeder manifold types of cell and tissue culturing processes are feasible.

´Z® RP Technology enables advanced´...

- fast and safe expansion of adherent cells
- three-dimensional high density cultivation in cell-specific extracellular matrix
- expansion and harvesting of viable primary cells for therapeutical applications
- expansion of stem cells with control of differentiation status
- colonization of scaffolds for implant generation
- long-term culturing of product secreting cells
- efficient production of recombinant proteins and vaccines
- production of excellently glycosylated proteins



Z® RP BIOREACTOR

´culturing compact, flexible and cell conducive´... Z® RP bioreactors are easy to assemble and handle. They are usually operated in perfusion mode and host large amounts of cells in very small volumes. The centerpiece is a magnetic coupled rotating axis mounted with the cell- or tissue carrier of choice exposing cells to medium and overlay alternately. From highly porous Sponceram® discs to implant scaffolds all kinds of supports can be installed in a Z® RP bioreactor giving rise to a vast variety of culturing options. In all configurations best possible aeration and feeding is guaranteed. The gentle rotational motion stimulates cells and tissues to adhere and proliferate fast without being stressed by shear forces. Cell populations stay viable and express large amounts of extracellular matrix. Three-dimensional high density cultivation can be extended to many months without loosing viability or expression productivity. Harvest of adherent cells is easily achieved employing specific rotation programs in combination with detaching solutions.

Z® RP GMP BREEDER

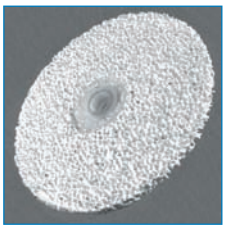
´good manufacturing practice´... Z® RP GMP Breeder is an innovative supply system combined with a laminar flow functionality. The sterile and temperature controlled workroom protects the Z® RP bioreactor from contamination and enables the user to conduct all necessary manipulations - e. g. preparation of cell and tissue samples, inoculation, change of medium container, tube change, sensor exchange, cell harvesting - in a sterile and closely controlled environment.

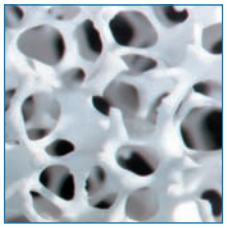
Z® RP CONTROL UNIT

´controled and documented cell- and tissue culturing´... The Z® RP control unit ensures safe operation of all cell- and tissue culturing processes conducted in Z® RP bioreactors and Z® RP GMP Breeders. System configurations and process parameters are easily accessible by the integrated touch screen. All relevant cultivation data are logged and evaluated on a personal computer with our implemented standard software according to GMP standards.

ZELLWERK
Zellwerk GmbH-HiPer-Gruppe

SPONCERAM®





´three-dimensional high density cell cultivation´... Specifically doped Sponceram® ceramics are ideal supports for colonization and expansion of all anchorage-preferring cells. Designed as highly porous discs Sponceram® carriers possess extremely high surfaces. Absorption properties of Sponceram® induce even distribution of cells on the carrier surface during inoculation procedures. Subsequently, anchoring and expansion of cells progress fast resulting in minimized lag phases. Cells cultured under these circumstances develop almost physiological characteristics with respect to morphology, differentiation, longevity and productivity.

Sponceram® HA scaffolds are partially or fully biomineralizable and represent ideal supports for chondrocytes, osteoblasts and a variety of progenitor cells. Product secreting cell lines seeded on Sponceram® carriers develop three-dimensional, dense layers of tissue-like organized cells. Large amounts of recombinant proteins with excellent post-processing patterns are yielded even when feeding with protein-free media for many months.

Zellwerk GmbH

Ziegeleistr. 7, 16727 Oberkrämer, Germany
Tel.: +49(0)3304-38268-0 / Fax : +49(0)3304-38268-90
www.zellwerk.biz / info@zellwerk.biz