PRODUCT DATA SHEET

BOVINE SOLUBLE COLLAGEN

Product Description

Collagen is the major structural protein of the extracellular matrix (ECM) mostly found in connective tissues such as dermis, tendon, bone and cartilage.

Collagen type I is an excellent substrate for the culture of adherent primary cells, stem cells and cell lines, enhancing cell attachment and providing a close to natural environment for a multitude of studies.

In Bovine Soluble Collagen, collagen type I is present as an acid-soluble triple helix of approximately 300 kDa, composed of two α1 chains and one α2 chain. By a shift to pH 7 at 37°C collagen fibril formation can be initiated resulting in a hydrogel for three-dimensional (3D) cell culture. Bovine Soluble Collagen can also be used to coat multiwell plates or other devices as a 2D matrix to improve cell culture conditions.

The high collagen concentration in this ready-to-use solution provides the flexibility to dilute to lower concentrations or to mix with other compounds.

 | REVISION DATE: 07-04-2022

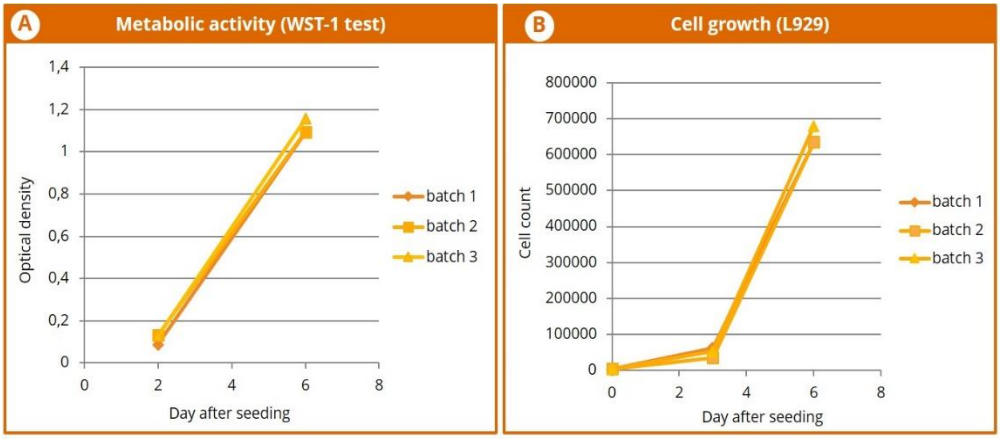
Collagen hydrogels for 3D cell cultures

PRODUCT SPECIFICATIONS

Parameter	Bovine Soluble Collagen
Main component	collagen type I
Source	bovine dermis, age of calves: ≤ 6 months
Appearance	clear, slightly viscous solution
Form	acid solubilized, without enzymatic treatment (telocollagen)
Collagen type I concentration (Sircol-Assay)	5.0 mg/ml*
Solvent	0.1 M acetic acid
pH	3.5*
Subunit composition (SDS-PAGE)	typical collagen type I banding pattern
Cytocompatibility (WST-1)	✓

Please note: Collagen concentration and pH may vary slightly from lot to lot. The exact concentration and pH-value for each specific lot is provided in the Certificate of Analysis supplied with the purchase of each product.

CELL PERFORMANCE – HIGH CONSISTENCY BETWEEN BATCHES



L929 cells seeded on wells coated with three different batches of our Bovine Soluble Collagen.

A) Metabolic activity of the cells was measured by WST-1 test after 2 and 6 days.

B) Cell numbers after 3 and 6 days.

APPLICATIONS

Bovine Soluble Collagen is highly standardized due to industrial production methods and is best suited for cultivation of adherent primary cells, stem cells and cell lines. It can be used alone or in combination with additional matrix molecules and growth factors making it the ideal matrix to study differentiation and migration of cells or tissue morphogenesis during development.

The collagen type I solution can be used to coat the surface of cell culture plastic ware to promote cell adhesion in two-dimensional (2D) cultures. It provides a natural environment that enhances authentic cell performance e.g. in cell-based assays. We recommend optimizing the collagen concentration for your experimental needs.

In addition, 3D collagen hydrogels can be generated from Bovine Soluble Collagen for the growth, proliferation and differentiation of various cell types, representing a close to natural extracellular matrix analogue for interactions with cells in three dimensions. The high collagen concentration enables the creation of either soft or stiffer hydrogels, allowing flexible adjustment of the conditions for your 3D cell cultures.

Cells may be seeded on top of the gel, embedded in the gel, or between gel layers. A User Guide for the generation of collagen hydrogels is available on our website for download.

Bovine Soluble Collagen serves also as a bioink for 3D bioprinting.

BENEFITS

- ✓ Improvement of cell adherence
- ✓ Natural signals for cell growth, migration and differentiation
- ✓ 3D environment allowing cells to grow and interact with surrounding extra-cellular framework in three dimensions
- ✓ High concentration for flexible use
- ✓ High performance consistency
- ✓ Long shelf life
- ✓ Ready-to-use solution

ORDERING INFORMATION

USA & CANADA

Order comfortably through VWR:

Catalog number: 76518-100

OTHER REGIONS

Order through Viscofan BioEngineering:

Catalog number: 500060635

contact@bio.viscofan.com
✆ +49 06201 86–358

Sterilization

This product has been sterilized by membrane filtration and tested negative for bacterial and fungal contamination.
We recommend to use it in an aseptic environment with aseptic techniques and agents to prevent contamination.

Storage

Storage at 2 – 8 °C is recommended. Do not freeze.

Storage life

24 months from the date of manufacture.

Intended use

Bovine Soluble Collagen is intended for research use only. It is neither intended for human nor animal diagnostic, therapeutic use nor for any other clinical use.

Corresponding documents

- User Guide
  Generation of Collagen Hydrogels
- Certificate of Analysis
  Bovine Soluble Collagen

Technical support

contact@bio.viscofan.com
✆ +49 06201 86–358

Disclaimer

All data and recommendations correspond to the present state of our knowledge; they are published without engagement. We reserve the right to make alterations and additions in line with technical developments without prior notice. The customers are obliged to check whether our products meet her/his technical requirements.
Please contact us for questions or support.

Viscofan BioEngineering, a business unit of Naturin Viscofan GmbH
Badeniastraße 13 • 69469 Weinheim, Germany
Phone +49 (0)6201 86-358 • Fax +49 (0)6201 86-226
contact@bio.viscofan.com • www.viscofan-bioengineering.com

Viscofan BIOENGINEERING