

Jellagen® Research Grade Jellyfish Collagen

Jellagen® purified next generation jellyfish collagen for cell culture, tissue engineering and regenerative medicine

PRODUCT DESCRIPTION

Jellagen® is a next generation and high purity collagen produced from jellyfish. Jellyfish collagen shares sequence homology with type I, II, III and V, making jellyfish collagen a universal collagen compatible with a broad range of cell types, for cell line-specific cell culture and regenerative medicine applications.

Product Numbers

- JL10ML-4
- JL100ML-4
- JL500ML-4
- JL1L-4

*Bespoke filling volumes and concentrations available upon request and subject to volume

FEATURES AND BENEFITS

FEATURES	BENEFITS
Innovative	Offers a viable alternative to mammalian and synthetic reagents with the below features and benefits.
Non-mammalian	Highly purified jellyfish collagen alternative providing consistent, repeatable results.
Compatible with all existing cell culture protocols	Like-for-like substitute for existing collagens in cell culture offering a matrix that promotes cell adhesion, proliferation and cell functionality.
Batch to batch consistency	Highly purified collagen that offers improved research productivity allowing security of product consistency and reproducible results.
Evolutionary ancient collagen demonstrating sequence homology to collagen I, II and V	Universal applications for multiple cell types and regenerative medicine.
Manufactured according to ISO13485	Follows a quality controlled manufacturing process producing a medical device-grade collagen.
Fibrillogenesis*	Successfully creates hydrogels through fibrillogenesis.

**IMPORTANT: If you are using the material for Fibrillogenesis/Hydrogel applications, state this clearly in the order enquiry or contact us directly.*

Jellyfish collagen has been shown to promote cellular attachment, proliferation and differentiation.

Cell lines that have been cultured successfully on Jellagen® jellyfish collagen include, but are not limited to: Mesenchymal Stem Cells (MSC's), fibroblasts, hepatocytes, endothelial cells, keratinocytes, chondrogenic progenitor cells, Urine Derived Stem Cells (UDC's), cardiomyocytes, ovarian cancer cells, iPSC-derived microglia and HEK293T.

PRODUCT INFORMATION	JELLAGEN® COATED PLATES
Format	Liquid
Chemistry	Preserved Triple Helix
Solvent	0.02M Acetic Acid
Concentration	3.7-4.3mg/ml
Turbidity / colour	Clear to Opaque liquid
Protein content	>90%
pH	2.5 – 4.0
SDS-PAGE	Doublet band at 135-175kDa Single band at 80-110kDa

Useful References

- Sourour Addad, J.Exposito, C.Faye, S.Ricard-Blum, and C. Lethias. "Isolation, Characterization and Biological Evaluation of Jellyfish Collagen for Use in Biomedical Applications". Marine Drugs. 2011; 9(6): 967–983
- Xiaochen Cheng, Ziyu Shao, Chengbo Li, Lejun Yu, Mazhar Ali Raja, and Chenguang Liu "Isolation, Characterization and Evaluation of Collagen from Jellyfish Rhopilema esculentum Kishinouye for Use in Hemostatic Applications. PLoS One. 2017; 12 (1)
- Seiya Miura and Shigeru Kimura. "Jellyfish Mesogloea Collagen – characterisation of molecules AS $\alpha 1\alpha 2\alpha 3$ heterotrimers". The Journal of Biological Chemistry. 1985. Vol. 260, No. 28, Issue of December 5, pp. 15352-15356.
- Eun Song, So Yeon Kim, Taehoon Chun, Hyun-Jung Byun, Young Moo Lee. "Collagen scaffolds derived from a marine source and their biocompatibility". Biomaterials 27. 2006. 2951–2961
- Judith Sewing¹, Matthias Klinger and Holger Notbohm. "Jellyfish collagen matrices conserve the chondrogenic phenotype in two- and three- dimensional collagen matrices.". Journal of Tissue Engineering and Regenerative Medicine. 2015 Research Article.
- Birgit Hoyer, Anne Bernhardt, Anja Lode, Sascha Heinemann, Judith Sewing, Matthias Klinger, Holger Notbohm, Michael Gelinsky. "Jellyfish collagen scaffolds for cartilage tissue engineering." Acta Biomaterialia 10.2014. 883–892
- Marion Pugliano, Xavier Vanbellinghen, Pascale Schwinté, Nadia Benkirane-Jesseland Laetitia Keller. "Combined Jellyfish Collagen Type II, Human Stem Cells and Tgf- $\beta 3$ as a Therapeutic Implant for Cartilage Repair." Journal of Stem Cell Research & Therapy. 2017, 7:4
- Ayako Miki, Satomi Inaba, Takayuki Baba, Koji Kihira, Harumi Fukada and Masayuki Oda. "Structural and physical properties of collagen extracted from moon jellyfish under neutral pH conditions". Bioscience, Biotechnology, and Biochemistry, 2015 Vol. 79, No. 10, 1603–1607

DISCLAIMER

This product is for R&D use only and is not intended for human or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

