

Jellagen® 3D Scaffolds

Next Generation Collagen Type 0 3D Scaffolds for *in vitro* cell culture and tissue engineering.

PRODUCT DESCRIPTION

3D scaffolds of Collagen Type 0, suitable for cell culture research and tissue engineering purposes.

Product Numbers

- JSM96F, JSM96H, JSM96Q
- JSM48
- JSM24F, JSM24H, JSM24S
- JSM06

*bespoke and non cross-linked formats available on request and subject to volume.

FEATURES AND BENEFITS

FEATURES	BENEFITS
Innovative	Offers a viable alternative to mammalian and synthetic scaffolds.
Non-mammalian & disease vector free	Purified Collagen Type 0, providing consistent and repeatable results.
Batch to batch consistency	Offers improved research productivity allowing security of product consistency and reproducible results.
Cross-linked	EDC cross-linked scaffolds for enhanced mechanical and thermal stability.
Evolutionary ancient collagen demonstrating sequence homology to collagen I, II, III & V	Universal applications for multiple cell types and regenerative medicine.
Produced in an ISO13485:2016 facility	Manufactured in a controlled and safe environment, fulfilling the expectations of customers and regulatory requirements.
Uniform pore size	Promotes cell seeding, invasion, proliferation and differentiation. Allows for growth factor permeation and gas exchange, ensuring long-term cell survival.



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The Collagen Type 0 used to manufacture these scaffolds has been tested to verify its applicability for routine cell culture research using human primary and iPSC-derived cell lines. Jellagen® Jellyfish collagen has been shown to promote cellular attachment, proliferation and differentiation to develop functional matrices.

Cell lines that have been cultured successfully on Collagen Type 0 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® 3D SCAFFOLDS
Format	6, 24, 48 and 96-well scaffolds
Collagen	Collagen Type 0
Serum level	Serum free
Storage	Store at room temperature
Shelf life	12 months
Plate polymer	Polystyrene and non-pyrogenic
Colour	White to off-white
Bioburden	Negative
Shipping conditions	Room temperature
pH	Approximately 7.0 – 7.4 when suspended in PBS or tissue culture media

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 Schwint , 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.

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