PureCol® *EZ Gel*

COLLAGEN SOLUTION
0.5% PURECOL® IN DMEM/F-12 MEDIUM
Catalog Number 5074-G

Product Description

PureCol® *EZ Gel* is a ready-to-use collagen solution that forms a firm gel by simply warming to 37°C in an incubator. The product consists of purified Type I bovine collagen at a concentration of 0.5%, DMEM/F-12 medium and a mixture of L-glutamine and dipeptide (L-alanine-L-glutamine) to provide a long-lasting L-glutamine source for cell culture

PureCol® *EZ Gel* is designed to improve gel consistency by providing a pre-formulated solution of media and collagen that have been adjusted to a neutral pH. This product avoids the inconsistencies in the preparation of the gel that can arise through variables of reagent addition, pH adjustment and handling conditions.

PureCol® *EZ Gel* is ideal for providing a firm gel and can also be used in the preparation of a thin layer for culturing cells. *PureCol*® *EZ Gel* collagen is provided in a user-friendly packaging for use and storage. This product is sterile and supplied as a ready to use solution. *PureCol*® EZ Gel is available in 35 mL volume, and produced by aseptic processing.

3D gels allow for the study of the effects of the mechanical properties of the ECM, such as density and rigidity, on cell development, migration, and morphology. Unlike 2D systems, 3D environments allow cell extensions to simultaneously interact with integrins on all cell surfaces, resulting in the activation of specific signaling pathways. Gel stiffness or rigidity also affects cell migration differently in 3D versus 2D environments. Furthermore, integrin-independent mechanical interactions resulting from the entanglement of matrix fibrils with cell extensions are possible in 3D systems, but not in 2D systems where the cells are attached to a flat surface.[1-3]

Precautions and 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.

3-D Gel Preparation Procedure

1. Remove *PureCol*® *EZ Gel* from 2–10°C storage. To prevent gelation, maintain temperature of product at 2–10°C.

2. Introduce *PureCol*® *EZ Gel* into cell culture system. Cells can be added to the *PureCol*® *EZ Gel* solution.

3. To form gel, warm to 37°C. The beginning of gelation will occur within 40 minutes, but allow approximately 90 to minutes for firm gel formation.

Characteristics

Parameter, Testing, and Method	*PureCol*® Collagen Solution Catalog # 5074-G
Form	Solution
Package Size	35 mL
Storage Temperature	2-10 °C
Expiration Date	Listed on product label and Certificate of Analysis
Concentration (Biuret Protein Determination)	0.5%
pH	Approx. pH 6.9 to 7.4
Gel Time (Gel Time Assay)	≤ 40 minutes
Sterility	No growth
Endotoxin (LAL)	≤1.0 EU/mL
Cell Attachment Assay	Pass
Collagen Source	Bovine Hide - Pepsin Extracted
Medium Supplement	DMEM/F-12 Medium
L-glutamine Source	Mixture of L-glutamine and dipeptide (L-alanine-L-glutamine)

References

1. Beningo, K.A., et al., Responses of fibroblasts to anchorage of dorsal extracellular matrix receptors. Proc. Natl. Acad Sci. USA, **101**, 18024-18029 (2004).
2. Zaman, M.H., et al., Migration of tumor cells in 3D matrices is governed by matrix stiffness along with cell-matrix adhesion and proteolysis. Proc. Natl. Acad. Sci. USA, **103**, 10889-10894 (2006).
3. Jiang, H., and Grinnell, F., Cell-matrix entanglement and mechanical anchorage of fibroblasts in three-dimensional collagen matrices. Mol. Biol. Cell, **16**, 5070-5076 (2005).

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