OviGenex
PREMIUM OVINE COLLAGEN

PRODUCT INFORMATION

CollOvine™ Solution

Catalog Number: 100101004

Product Application

Collagen is a major structural protein of the extracellular matrix in various connective tissues. Although there have been a number of types of collagen identified such as, Type I and III, all are composed of molecules containing three polypeptide chains arranged in a triple helical conformation. Slight differences in the primary structure (amino acid sequence) establish differences between the types. Subsequently there are a variety of sources for harvesting collagen, the most common being ovine, bovine, and porcine. CollOvine™, by OviGenex, is the ideal alternative to bovine and porcine.

CollOvine™ is an ovine collagen harvested from USDA certified, fully traceable flocks in Australia. CollOvine™ is highly purified, TSE-free with nearly undetectable levels of endotoxins and no cytotoxicity. Our proprietary manufacturing process ensures CollOvine™ retains full collagen functionality.

CollOvine™ solution has been tested for its gelation properties, as a general cell culture coating reagent (Protocol 1), in 3-Dimensional (3D) cell invasion assays (Protocol 2) and in a Boyden Chamber invasion assay. Due to its nearly undetectable levels of endotoxin content, lack of cytotoxicity, and excellent biofunctionality, CollOvine™ can support additional applications such as general research to medical applications, including collagen crosslinking studies, 3D printing, for formulating dietary supplements, wound healing, cosmetics, tissue regeneration, bone grafts, and as a scaffold.

Protocol 1. Procedure for Collagen Coating using CollOvine™

1. Dilute CollOvine™ solution with Hank's Balanced Salt Solution (HBSS) to make a 0.1 mg/mL coating solution.
2. Add the coating solution from step 1 into each well (For example, 100 µL per well in a 96-well plate).
3. Incubate the well from step 2 for 1.5 hours at 37 °C.
4. Remove excess fluid from each well.
5. Rinse each well with HBSS to remove residual collagen from the coated surface.

Description

Collagen concentration: ≥ 3.0 ± 0.2 mg/mL in 20 mM acetic acid
Appearance (Form): Clear, Liquid
Identity: SDS-PAGE/Trypsin Resistance
Endotoxin: ≤ 0.3 EU/mL
Density: 1.01 ± 0.02 g/mL
pH: 3.5 ± 0.25
Bioburden: No growth

Storage: Upon receipt store at 4 °C.

Precautions and Disclaimer: For Research Use Only. **NOT** for Human Use or Other Uses.

Protocol 2. Procedure for a 3-Dimensional (3D) Cell Invasion Assay using CollOvine™

1. Prepare spheroids using a typical hanging drop culture method.
2. Gently collect the spheroids and allow the spheroids to settle at the bottom of the collection tube.
3. Using pre-chilled tubes and micropipette tips, mix 100 µL of extracellular matrices (ECM; e.g., Matrigel®) with 100 µL of CollOvine™ solution. Keep on ice.
4. Gently pipette 40 µL of the spheroids from the bottom of the tube in Step 2, and add into the collagen/ECM mixture in Step 3. Keep on ice.
5. Pipette 40 µL of mixture from Step 4 into each well in a 24-well plate.
6. Incubate the 24-well plate 0.5 hours at 37 °C, until solidified.
7. Gently add in 1 mL of warm appropriate culture media into each well.
8. Observe invasion.

References

1. Achilli M., and Mantovani D., Polymers. 2(4), 664-680 (2010)
2. Berens E.B., Holy J.M., Riegel A.T., and Wellstein A., J. Vis. Exp. E53409 (2015)

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