

CellAdhere™ Tropoelastin, Human, Lyophilized

Purified tropoelastin, human, lyophilized, for tissue engineering research, cell culture, and biochemistry

Catalog # 07003

1 mg



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Product Description

Tropoelastin is the water soluble precursor to the common structural protein elastin, formed by the crosslinking of tropoelastin monomers (Kozel et al.). Tropoelastin is a structural protein responsible for providing strength and elasticity to tissues in the body. Used as a cell culture surface coating, tropoelastin can promote cell attachment and spreading, while simultaneously allowing the modulation of surface elasticity (Holst et al.). Studies have shown that surface stiffness can have significant effects on cell growth and function.

CellAdhere™ Tropoelastin, Human, Lyophilized contains a single recombinant protein composed of entirely human sequences. This product is ideal for coating surfaces with a thin layer of protein to support cell attachment. The optimal protein concentration may vary depending on the cell type being used, and therefore must be titrated for best results.

Properties

Storage: Store at -20°C.

Shelf Life: Stable for 6 months from date of receipt.

Handling / Directions For Use

PREPARING TROPOELASTIN-COATED TISSUE CULTUREWARE

1. Reconstitute CellAdhere™ Tropoelastin, Human, Lyophilized (1 mg) with 1 mL of sterile 0.25% acetic acid to obtain a 1 mg/mL solution.
2. Mix gently until everything has been solubilized.
NOTE: Reconstituted solution may be slightly opaque. If not used immediately, store at 2 - 8°C for up to 3 months.
3. Dilute reconstituted Tropoelastin solution with sterile 0.25% acetic acid to obtain desired concentration.
NOTE: Different dilutions will need to be tested to determine the optimal concentration required for each culture system. Typical coating concentrations range between 1 - 50 µg/mL.
4. Add desired amount of diluted Tropoelastin solution on the surface of the cultureware to be coated.
For example, use 1 mL to coat a 35 mm Culture Dish (Catalog #27100).
5. Cover coated cultureware to protect from contamination, and incubate at room temperature (15 - 25°C) for 1 - 2 hours.
6. Aspirate excess solution. Avoid scratching the coated surface.
7. Rinse coated cultureware with sterile distilled water.
8. Use coated cultureware immediately. Alternatively, keep sterile and store at 2 - 8°C damp or air dried.

References

- Holst J et al. (2010) Substrate elasticity provides mechanical signals for the expansion of hemopoietic stem and progenitor cells. *Nat Biotechnol* 28(10): 1123–8.
- Kozel BA et al. (2003) Domains in tropoelastin that mediate elastin deposition in vitro and in vivo. *J Biol Chem* 278(20): 18491–8.

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