

Technical Data Sheet

Recombinant Human Tropoelastin

Catalog Number: RT110

Source: *E. Coli*

Description

Recombinant Human Tropoelastin is the precursor to elastin, a structural protein made by crosslinking together the water soluble tropoelastin molecules. Elastin provides strength and elasticity and is the main constituent of elastic connective tissue. It allows the tissue to resume its shape after contracting or stretching and is found in the skin, heart, blood vessels, lungs, ligaments, and the bladder.

Tropoelastin is supplied as a recombinant lyophilized protein and can be used to coat cell culture surfaces to enhance cell attachment and proliferation.

Sequence

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MAGLTAAAPR  PGMVLLLLLSI  LHPSRPGGVP  GAIPGGVPGG
VFYYPGAGLGA  LGGGALGPPG  KPLKPVPGGL  AGAGLGAGLG
AFPVAVTFPGA  LVPGGVADAA  AAYKAAKAGA  GLGGVPGVGG
LGVSAGAVVP  QPGAGVKPGK  VPGVGLPGVY  PGGVLPGARF
PGVGVLPGVV  TGAGVKPKAP  GVGGAFAFAG  GVGPFPGGPQ
GVPLGYPIKA  PKLPGGYGLP  YTTGKLPYGY  GPGGVAGAAG
KAGYPTGTGV  GPQAAAAAAA  KAAAKFGAGA  AGVLPVGGGA
GVPGVPGAIP  GIGGIAGVGT  PAAAAAATAA  AKAAYGAAA
GLVPGGPGFG  PGVVGVPVAG  VPGVGVPGAG  IPVVPVAGIP
GAAVPGVVSP  EAAAKAAAKA  AKYGARPGVG  VGGIPTYGVG
AGGFPGFVGV  VGGIPGVAGV  PSVGGVPGVG  GVPVGVISPE
AQAAAAAKAA  KYGLVPGVGV  APGVGVAPGV  GVAPVGLAP
GVGVAPGVGV  APGVGVAPGI  GPGGVAAAAK  SAAKVAAKAQ
LRAAAGLGAG  IPGLGVGVGV  PGLGVGAGVP  GLGVGAGVPG
FGAVPGALAA  AKAAYGAAV  PGVLGGLGAL  GGVGIPGGVV
GAGPAAAAAA  AKAAAKAAQF  GLVGAAGLGG  LGVGGLVGVP
VGGLGGIPPA  AAKAAKYGV  AARPGFGLSP  IFPGGACLGK
ACGRKRK
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Identify & Purity

Verified by SDS-PAGE gel.

Endotoxin

Endotoxin level is < 10 EU/mL.

Reconstitution and Surface Coating Directions

1. Reconstitute Tropoelastin with 1mL of sterile 0.25% acetic acid for a final concentration of 1mg/mL.
2. Mix gently until solubilized. (Solution may appear slightly opaque.)
3. Dilute Tropoelastin solution with sterile 0.25% acetic acid to desired concentration. The typical concentration range is between 1-50ug/mL. We recommend titration to determine the optimal concentration for the specific application.
4. Add diluted Tropoelastin to the cell culture surface.
5. Cover and incubate at RT for 1-2 hours.
6. Aspirate excess solution and rinse the coated surface with sterile water. Take precautions to avoid scratching the coated surface.
7. Tropoelastin coated surface can now be used.

Storage

-20°C

Country of Origin

USA

References

Mithieux, S. M., Wise, S. G., & Weiss, A. S. (2013). Tropoelastin—A multifaceted naturally smart material. *Advanced drug delivery reviews*, 65(4), 421-428.

Holst, J., Watson, S., Lord, M. S., Eamegdool, S. S., Bax, D. V., Nivison-Smith, L. B., ... & Rasko, J. E. (2010). Substrate elasticity provides mechanical signals for the expansion of hemopoietic stem and progenitor cells. *Nature biotechnology*, 28(10), 1123.

Yeo, G. C., & Weiss, A. S. (2019). Soluble matrix protein is a potent modulator of mesenchymal stem cell performance. *Proceedings of the National Academy of Sciences of the United States of America*.

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