Product Information

Angiopoietin 1, human recombinant, expressed in mouse NSO cells

Catalog Number A5226
Storage Temperature –20 °C

Synonym: Ang1

Product Description
Recombinant, human angiopoietin 1 (Ang1) is produced from the human angiopoietin 1 DNA sequence, Met1-Phe498 fused to a 6× histidine tag at the C-terminus, expressed in the mouse NSO myeloma cell line. The recombinant protein starts at Ser20. The calculated molecular mass is 56 kDa, but due to glycosylation, it has a molecular mass of ~70 kDa by SDS-PAGE under reducing conditions. Human Ang1 has ~97% amino acid homology to mouse Ang1 and ~60% homology to human angiopoietin 2 (Ang2).1

Ang1 is secreted by endothelial cells and is a specific ligand of the Tie-2 receptor, which is expressed on endothelial cells and early hematopoietic cells. Ang1 is closely related to Ang2. Ang1, Ang2, and their receptor Tie-2 play critical roles in embryonic vasculogenesis and angiogenesis, adult angiogenic sprouting, and endothelial cell proliferation. Ang1 activates Tie-2 signaling on endothelial cells to promote chemotaxis, cell survival, cell sprouting, and vessel growth and stabilization.1,2

Ang1 and Ang2 have an N-terminal coiled-coil domain and a C-terminal fibrinogen-like domain.3,4 The coiled-coil domain mediates ligand homo-oligomerization and the fibrinogen-like domain mediates ligand activity.4

Recombinant, human angiopoietin 1 is lyophilized from a 0.2 µm filtered solution of 50 mM Tris, pH 6.5, containing 0.4 M NaCl and 50 µg of bovine serum albumin per 1 µg of Ang1.

The activity of Ang1 is measured by its ability to inhibit serum deprivation-induced apoptosis in human umbilical venous endothelial (HUVE) cells. The ED50 range is 10–40 ng/mL when Ang1 is crosslinked with 5 µg/mL mouse anti-6× histidine antibody. Optimal dilutions should be determined by each laboratory for each application.

Purity: ≥90% (SDS-PAGE visualized by silver stain)
Endotoxin level: <0.2 ng/µg protein
[LAL (Limulus amebocyte lysate) method]

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions
Stock solutions of ≥10 µg/ml can be prepared in the vial by adding sterile phosphate buffered saline containing at least 0.1% human or bovine serum albumin.

Storage/Stability
Recombinant, human angiopoietin 1 should be stored as supplied at –20 °C and remains active for at least six months.

Reconstituted sterile stock solutions can be stored at 2–8 °C for one month or at –20 °C for three months. Avoid repeated freeze-thaw cycles.

References

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