

PRODUCT INFORMATION



Angiopoietin-1 (human, recombinant)

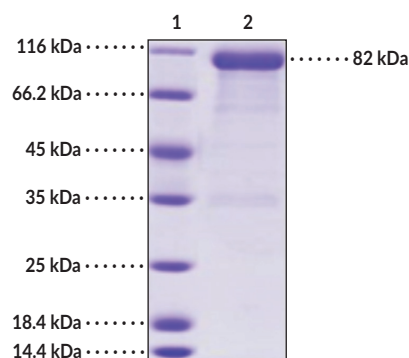
Item No. 42770

Overview and Properties

Synonyms: ANG-1, ANGP1, ANGPT1, KIAA0003
Source: Recombinant C-terminal human IgG1 Fc-tagged ANG-1 expressed in HEK293 cells
Amino Acids: 16-261, 277-498
Uniprot No.: Q15389
Molecular Weight: 82 kDa
Storage: -80°C (as supplied)
Stability: ≥1 year
Purity: ≥85% estimated by SDS-PAGE
Supplied in: Lyophilized from sterile 25 mM sodium citrate, pH 7.0, with 200 mM sodium chloride, and 0.02% Tween 80
Endotoxin Testing: <1.0 EU/μg, determined by the LAL endotoxin assay
Bioactivity: See figures for details

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: ANG-1

SDS-PAGE Analysis of ANG-1. This protein has a calculated molecular weight of 82 kDa.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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Description

Angiopoietin-1 (ANG-1) is a member of the angiopoietin family of growth factors.^{1,2} It is composed of a superclustering domain, which mediates oligomerization, a coiled-coil domain, and a fibrinogen-like domain, which facilitates receptor binding. ANG-1 is ubiquitously expressed and forms homomultimers, which are required for activation of its receptors, tunica interna endothelial cell kinase 2 (Tie2) and Tie1. It plays a role in angiogenesis, vascular remodeling and permeability, inflammation, hematopoiesis, and inhibition of apoptosis in endothelial cells. Mutations in *ANGPT1*, the gene encoding ANG-1, are associated with hereditary angioedema.³ Increased protein levels of ANG-1 correlate with increased levels of Tie2 in patients with colorectal cancer.⁴ Cayman's Angiopoietin-1 (human, recombinant) protein is a disulfide-linked homodimer. The reduced monomer, composed of ANG-1 (amino acids 16-261 and 277-498) fused to human IgG1 Fc at its C-terminus, consists of 721 amino acids, has a calculated molecular weight of 82 kDa, and a predicted N-terminus of His16 after signal peptide cleavage.

References

1. Brindle, N.P.J., Saharinen, P., and Alitalo, K. Signaling and functions of angiopoietin-1 in vascular protection. *Circ. Res.* **98(8)**, 1014-1023 (2006).
2. Huang, H., Bhat, A., Woodnutt, G., *et al.* Targeting the ANGPT-TIE2 pathway in malignancy. *Nat. Rev. Cancer* **10(8)**, 575-585 (2010).
3. Bafunno, V., Firinu, D., D'Apolito, M., *et al.* Mutation of the angiopoietin-1 gene (*ANGPT1*) associates with a new type of hereditary angioedema. *J. Allergy Clin. Immunol.* **141(3)**, 1009-1017 (2018).
4. Hong, S., Jung, H.I., Ahn, T.S., *et al.* Expressions and clinical significances of angiopoietin-1, angiopoietin-2, and Tie-2 receptor in patients with colorectal cancer. *Ann. Coloproctol.* **33(1)**, 9-15 (2017).

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