

Product Information

Monoclonal Anti-Angiopoietin-1

Clone 171718

Purified Mouse Immunoglobulin

Product Number **A 0604**

Product Description

Monoclonal Anti-Angiopoietin-1 (mouse IgG2b isotype) is purified from 171718 mouse hybridoma resulting from the fusion of a mouse myeloma with B cells obtained from a mouse immunized with purified, NSO-derived, recombinant human Angiopoietin-1 (ANG-1). The antibody is purified by Protein G affinity chromatography.

Anti-Angiopoietin-1 detects recombinant human angiopoietin-1 by immunoblotting, immunohistochemistry, and ELISA. The antibody shows no cross-reactivity with recombinant human angiopoietin-2, recombinant human angiopoietin-4, recombinant mouse angiopoietin-like 3, and recombinant human cornea-derived transcript 6 (CDT-6).

Angiopoietin-1 (ANG-1) activates Tie-2 signaling on endothelial cells to promote chemotaxis, cell survival, cell sprouting, vessel growth, and stabilization.^{1,2} ANG-1 is closely related to ANG-2. Both ANG-1 and ANG-2 with their receptor Tie-2 play critical roles in embryonic vasculogenesis and angiogenesis, adult angiogenic sprouting, and endothelial cell proliferation. ANG-1 and ANG-2 have an amino-terminal coiled-coil domain and a carboxyl-terminal fibrinogen-like domain.^{3,4} The coiled coil domain mediates ligand homo-oligomerization and the fibrinogen-like domain mediates ligand activity.⁴ ANG-1 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.³ Both ANG-1 and ANG-2 induce phosphorylation of expressed receptors on NIH3T3 fibroblasts stably expressing transfected Tie-2. However, only ANG-1 induces a chemotactic response and Tie-2 phosphorylation on endothelial cells.²

Reagent

Monoclonal Anti-Angiopoietin-1 is supplied as approximately 500 µg of antiserum lyophilized from a 0.2 µm filtered solution of phosphate buffered saline with 5% trehalose.

Storage/Stability

Prior to reconstitution, store at -20 °C. Reconstituted product may be stored at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots. Avoid repeated freezing and thawing. Do not store in frost-free freezer.

Preparation Instructions

To one vial of lyophilized powder, add 1 ml of 0.2 µm filtered solution of phosphate buffered saline to produce a 0.5 mg/ml stock solution of antibody.

Product Profile

For immunoblotting, a working antibody concentration of 1-2 µg/ml is recommended. The detection limit for recombinant human angiopoietin-1 is approximately 1 ng/lane and 5 ng/lane under non-reducing and reducing conditions, respectively.

For ELISAs, a working antibody concentration of 0.5-1.0 µg/ml is recommended. The detection limit for recombinant human angiopoietin-1 is approximately 1 ng/well.

For immunohistochemistry, a working antibody concentration of approximately 25 µg/ml is recommended using cells and tissue sections in a chromogenic detection system.

Note: In order to obtain the best results in various techniques and preparations, we recommend determining the optimal working dilutions by titration.

Endotoxin level is < 0.1 E.U. (endotoxin units)/μg antibody as determined by the LAL (Limulus amoebocyte lysate) method.

References

1. Jones, et al., Tie receptors: new modulators of angiogenic and lymphangiogenic responses. *Nat. Rev. Mol. Cell Biol.*, **2**, 257-267 (2001).
2. Witzanbichler, B., et al., Chemotactic properties of angiopoietin-1 and -2, ligands for the endothelial-specific receptor tyrosine kinase Tie2. *J. Biol. Chem.*, **273**, 18514-18521 (1998).
3. Maisonpierre, P.C., et al., Angiopoietin-2, a natural antagonist for Tie2 that disrupts *in vivo* angiogenesis. *Science*, **277**, 55-60 (1997).
4. Procopio, W.N., et al., Angiopoietin-1 and -2 coiled coil domains mediate distinct homo-oligomerization patterns, but fibrinogen-like domains mediate ligand activity. *J. Biol. Chem.*, **274**, 30196-30201 (1999).

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