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Product Information

Anti-Angiopoietin-1
produced in goat, affinity isolated antibody

Catalog Number **A1104**

Synonym: Anti- ANG-1

Product Description
Anti-Angiopoietin-1 is produced in goat using as immunogen a purified recombinant human angiopoietin-1 (ANG-1), expressed in mouse NSO cells. Human ANG-1 specific IgG is purified by human ANG-1 affinity chromatography.

Anti-Angiopoietin-1 detects recombinant human angiopoietin-1 by immunoblotting, immunohisto-chemistry, and ELISA. The antibody shows less than 1% cross-reactivity with recombinant human angiopoietin-2, recombinant human angiopoietin-4, and recombinant human angiopoietin-like factor/CDT6 in ELISA.

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 angiogenisis, 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
Supplied lyophilized from a 0.2 μm filtered solution of phosphate buffered saline with 5% trehalose.

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.

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 0.1 mg/mL stock solution of antibody.

Product Profile
Immunoblotting: a working antibody concentration of 0.1-0.2 μg/mL is recommended. The detection limit for recombinant human angiopoietin-1 is ~25 ng/lane and 5 ng/lane under non-reducing and reducing conditions, respectively.

ELISA: a working concentration of 0.5-1.0 μg/mL is recommended. The detection limit for recombinant human angiopoietin-1 is ~0.1 ng/well.

Immunohistochemistry: a working concentration of 5-15 μg/mL is recommended using cells and tissues 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.

References
1. Jones, et al., Tie receptors: new modulators of angiogenic and lymphangiogenic responses. *Nat. Rev. Mol. Cell Biol.*, **2**, 257-267 (2001).

2. Witzenbichler, 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. Maisonpier, P.C., et al., Angiopoietin-2, a natural antagonist for Tie2 that disrupts *in vivo* angiogenesis. *Science*, **277**, 55-60 (1997).
4. Procopia, 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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