

Product Information

Anti-Angiopoietin-2

produced in goat, affinity isolated antibody

Catalog Number **A0851**

Synonym: Anti-Ang2

Product Description

Anti-Angiopoietin-2 is produced in goat using a purified recombinant human angiopoietin-2 expressed in mouse NSO cells as immunogen. Affinity isolated antibody is obtained from goat Anti-Ang2 antiserum by immunospecific purification which removes essentially all goat serum proteins, including immunoglobulins, which do not specifically bind to the peptide.

Anti-Angiopoietin-2 detects recombinant human angiopoietin-2 by immunoblotting and ELISA. The antibody may show approximately 25% cross-reactivity with recombinant human angiopoietin-1 in ELISA assays.

Angiopoietin-2 and angiopoietin-1 have an N-terminal coiled-coil domain and a C-terminal fibrinogen-like domain.^{1,2} The coiled coil domains mediate ligand homo-oligomerization and the fibrinogen-like domains mediate ligand activity.² Recombinant human angiopoietin-2 has a molecular mass of ~66 kDa in SDS-PAGE under reducing and non-reducing conditions. Human and mouse angiopoietin-2 share 85% sequence identity and are 60% identical to their Ang1 homologs.³

Angiopoietin-2 and angiopoietin-1 are closely related endothelial cell-specific ligands of the endothelial cell-specific receptor Tie-2 expressed on endothelial cells and early hematopoietic cells.¹ Ang-1, Ang-2, and their receptor Tie-2 play critical roles in embryogenic angiogenesis, adult vasculogenesis, and endothelial cell proliferation. Angiopoietin-2, released by endothelial cells of interior tumor vessels, promotes vessel regression and disassociation from surrounding tumor cells.

Both Ang1 and Ang2 induce phosphorylation of expressed receptors on NIH3T3 fibroblasts stably expressing transfected Tie-2. However, only Ang1 induces a chemotactic response and Tie-2 phosphorylation on endothelial cells.³ Ang2 inhibits Ang1-induced endothelial cell responses mediated by Tie-2. Angiopoietin-2 probably acts as a natural antagonist for Ang1 and Tie-2 both *in vivo* and *in vitro*.^{1,3} In adult mice and humans, angiopoietin-2 is expressed at sites of vascular remodeling.¹

Reagent

Supplied as a lyophilized powder from a 0.2 µm filtered solution of phosphate buffered saline, pH 7.4, 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.

Preparation Instructions

To one vial of lyophilized powder, add 1 ml of sterile phosphate buffered saline (PBS) to produce a 0.1 mg/ml stock solution of antibody.

Storage/Stability

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

Product Profile

Immunoblotting: a working antibody concentration of 0.1-0.2 µg/ml is recommended. The detection limit for recombinant human angiopoietin-2 is ~5 ng/lane and 2 ng/lane under non-reducing and reducing conditions, respectively.

Immunohistochemistry: a working antibody concentration of 5-15 µg/ml is determined using paraffin-embedded human tissue sections with the appropriate secondary reagents to detect human angiopoietin-2.

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 < 10 ng/mg antibody as determined by the LAL (Limulus amebocyte lysate) method.

References

1. Maisonpierre, P.C., et al., *Science*, **277**, 55-60 (1997).
2. Procopio, W.N., et al., *J. Biol. Chem.*, **274**, 30196-30201 (1999).
3. Witzenbichler, B., et al., *J. Biol. Chem.*, **273**, 18514-18521 (1998).

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