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Product Information

Anti-Angiopoietin-4

Developed in Goat
Affinity Isolated Antibody

Product Number **A 0979**

Product Description

Anti-Angiopoietin-4 is developed in goat using purified, NSO-derived, recombinant human angiopoietin-4 (ANG-4) as immunogen. Angiopoietin-4 specific IgG is purified by human ANG-4 affinity chromatography.

Anti-Angiopoietin-4 detects human angiopoietin-4 by immunoblotting, immunohistochemistry, ELISA, and blocking of receptor-ligand interaction. This antibody has been selected for its ability to block receptor-ligand interaction. By ELISA, the antibody shows less than 1% cross-reactivity with recombinant human ANG-1 and recombinant human ANG-2.

Human Angiopoietin-4 (ANG-4),¹ a secreted glycoprotein, is a member of the angiopoietin family. It has the characteristic structural motifs of angiopoietins including the coiled-coiled domain near the amino-terminus and a fibrinogen-like domain at the carboxy-terminus. Mouse ANG-3 is believed to be an ortholog of human ANG-4 based on chromosomal localization studies.² Human ANG-4 is highly expressed in lung and in cultured human umbilical vein endothelial cells (HUVACs). Human ANG-4 is an agonist that can bind and activate Tie-2, a receptor tyrosine kinase with immunoglobulin and epidermal growth factor homology domains expressed primarily on endothelial cells and early hematopoietic cells.^{2,3}

Reagent

Anti-Angiopoietin-4 is supplied as approximately 100 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 0.1 mg/ml stock solution of antibody.

Product Profile

For immunoblotting, a working antibody concentration of 0.1-0.2 µg/ml is recommended. The detection limit for recombinant human angiopoietin-4 is approximately 50 ng/lane under non-reducing and reducing conditions.

For ELISAs, a working antibody concentration of 0.5-1.0 µg/ml is recommended. The detection limit for recombinant human angiopoietin-4 is approximately 1.2 ng/well.

For immunohistochemistry, a working antibody concentration of approximately 10 µg/ml is recommended using cells and tissues in a chromogenic detection system. Antigen retrieval is recommended.

For blocking of receptor-ligand interaction, a working antibody concentration of 1-3 µg/ml will block 50% of 50 ng/ml of recombinant human ANG-4 to immobilized recombinant human Tie-2/Fc (100 µl of a 4 µg/ml solution is coated in each well) in an ELISA. At 50 µg/ml, this antibody will achieve approximately 85% blocking in the assay.

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

References

1. Valenzuela, D.M., et al., Proc. Natl. Acad. Sci. USA, **96**, 1904-1909 (1999).
2. Nishimura, M., et al., FEBS Lett., **448**, 254-256 (1999).
3. Jones, N., et al., Nat. Rev. Mol. Cell Biol., **2**, 257-267 (2001).

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