

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Angiopoietin-4 in direct ELISAs and Western blots. In direct ELISAs, this antibody does not cross-react with recombinant human (rh) Ang-1, rhAng-2, rhAng-X, or rhANGPTL3.
Source	Monoclonal Mouse IgG ₁ Clone # 156215
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Angiopoietin-4 Met1-Ile503 Accession # Q9Y264
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

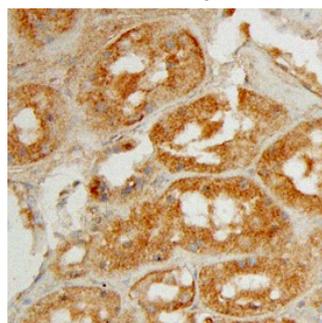
APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Human Angiopoietin-4 (Catalog # 964-AN)
Immunohistochemistry	8-25 µg/mL	See Below

DATA

Immunohistochemistry



Angiopoietin-4 in Human Kidney.
Angiopoietin-4 was detected in immersion fixed paraffin-embedded sections of human kidney using Human Angiopoietin-4 Monoclonal Antibody (Catalog # MAB964) at 15 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Human Angiopoietin-4 (Ang-4) (1), alternatively named Ang-3 (2), is a secreted glycoprotein belonging to 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 C-terminus. Human Ang-4 cDNA encodes a 503 amino acid (aa) precursor protein with a 23 aa signal peptide. It shares 45%, 47%, and 54% aa sequence identity with human Ang-1, human Ang-2, and mouse Ang-3, respectively. Although the sequence homology is much higher between the human and mouse counterparts for Ang-1 (97%) and Ang-2 (85%), 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 (HUVECs). In contrast, mouse Ang-3 is expressed in multiple mouse tissues. 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). Mouse Ang-3 has been reported to be a Tie-2 antagonist. It is likely that mouse Ang-3, like Ang-2, may exert agonist or antagonist activities depending on the cell context (1, 3, 4).

References:

1. Valenzuela, D.M. *et al.* (1999) Proc. Natl. Acad. Sci. USA **96**:1904.
2. Nishimura, M. *et al.* (1999) FEBS Lett. **448**:254.
3. Jones, N. *et al.* (2001) Nat. Rev. Mol. Cell Biol. **2**:257.
4. Teichert-Kuliszewska, K. *et al.* (2001) Cardiovasc. Res. **49**:659.