Human Tie-2 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF313

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Tie-2 in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Tie-2 Ala23-Lys745 Accession # Q02763
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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 either lyophilized or as a 0.2 µm filtered solution in PBS.

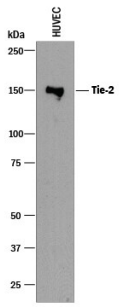
APPLICATIONS

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	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Simple Western	10 µg/mL	See Below
Blockade of Receptor-ligand Interaction	In a functional ELISA, Human Tie-2 Antibody (Catalog # AF313) blocks the binding of Recombinant Human Tie-2 Fc Chimera (Catalog # 313-TI) to Biotinylated Recombinant Human Angiopoietin-2. The Neutralization Dose (ND_{50}) for this effect is typically 1.00-12.0 µg/mL.	

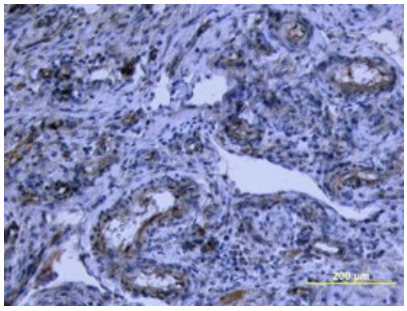
DATA

Western Blot



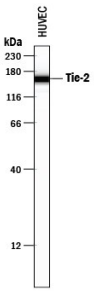
Detection of Human Tie-2 by Western Blot. Western blot shows lysate of HUVEC human umbilical vein endothelial cells. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human Tie-2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF313) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for Tie-2 at approximately 150 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



Tie-2 in Human Placenta. Tie-2 was detected in immersion fixed paraffin-embedded sections of human placenta using Goat Anti-Human Tie-2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF313) at 10 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Simple Western



Detection of Human Tie-2 by Simple Western™. Simple Western lane view shows lysates of HUVEC human umbilical vein endothelial cells, loaded at 0.2 mg/mL. A specific band was detected for Tie-2 at approximately 161 kDa (as indicated) using 10 µg/mL of Goat Anti-Human Tie-2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF313) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

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PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 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

Tie-1/Tie (tyrosine kinase with Ig and EGF homology domains 1) and Tie-2/Tek comprise a receptor tyrosine kinase (RTK) subfamily with unique structural characteristics: two immunoglobulin-like domains flanking three epidermal growth factor (EGF)-like domains and followed by three fibronectin type III-like repeats in the extracellular region and a split tyrosine kinase domain in the cytoplasmic region. These receptors are expressed primarily on endothelial and hematopoietic progenitor cells and play critical roles in angiogenesis, vasculogenesis and hematopoiesis.

Human Tie-2 cDNA encodes a 1124 amino acid (aa) residue precursor protein with an 18 residue putative signal peptide, a 727 residue extracellular domain and a 354 residue cytoplasmic domain. Two ligands, angiopoietin-1 (Ang-1) and angiopoietin-2 (Ang-2), which bind Tie-2 with high-affinity have been identified. Ang-2 has been reported to act as an antagonist for Ang-1. Mice engineered to overexpress Ang-2 or to lack Ang-1 or Tie-2 display similar angiogenesis defects.

References:

1. Partanen, J. and D.J. Dumont (1999) Curr. Top. Microbiol. Immunol. **237**:159.
2. Takakura, N. *et al.* (1998) Immunity **9**:677.
3. Procopio, W. *et al.* (1999) J. Biol. Chem. **274**:30196.

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