

DESCRIPTION

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|---------------------------|---|
| Species Reactivity | Human |
| Specificity | Detects human Tie-2 in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 20% cross-reactivity with recombinant mouse Tie-2 is observed and less than 1% cross-reactivity with recombinant human Tie-1 is observed. |
| 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. |

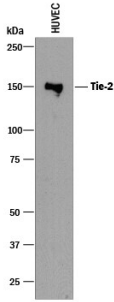
APPLICATIONS

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, 5-10 µg/mL of this antibody will block 50% of the binding of 40 ng/mL of biotinylated Recombinant Human Angiopoietin-2 (Catalog # BT623) to immobilized Recombinant Human Tie-2 Fc Chimera (Catalog # 313-TI) coated at 4 µg/mL (100 µL/well). At 50 µg/mL, this antibody will block >90% of the binding. | |

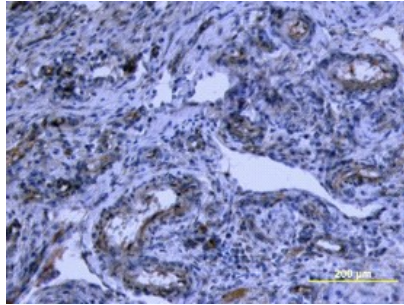
DATA

Western Blot



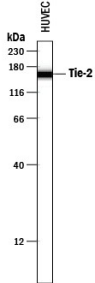
Detection of Human Tie-2 by Western Blot. Western blot shows lysate of HUVEC human umbilical vein endothelial cells. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human Tie-2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF313) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (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.



PREPARATION AND STORAGE

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|--------------------------------|--|
| Reconstitution | Reconstitute at 0.2 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

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.