

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Tie-2 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human Tie-1, recombinant mouse Tie-2, or recombinant zebrafish Tie-2 is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 83715
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Tie-2 Ala23-Lys745 Accession # AAA61139
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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
Flow Cytometry	0.25-1 µg/10 ⁶ cells	HUVEC human umbilical vein endothelial cells

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

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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