Anti-human TIE-2 (#tek16)

20140401BB

FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	**101-M54**
Size:	100 µg
Lot. No.:	According to product label
Country of origin:	Germany

Preparation: Monoclonals were produced with the help of BALB/c mice using recombinant human soluble extracellular domain of TIE-2.

Target Background

Synonyms:	Tyrosine kinase with Ig and EGF homology domain-2

Recombinant human soluble TIE-2/Tek was fused with the Fc part of human IgG1. The recombinant mature sTIE-2/Fc is a disulfide-linked homodimeric protein. The sTIE-2/Fc monomers have a mass of approximately 125 kDa. The soluble receptor protein consists of the full extracellular domain (Met1-Val730). TIE-1 (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 (Ang1) and angiopoietin-2 (Ang2), which bind TIE-2 with high affinity have been identified. Ang2 has been reported to act as an antagonist for Ang1. Mice engineered to overexpress Ang2 or to lack Ang1 or TIE-2 display similar angiogenic defects. T

References

1. Reusch et al., Angiogenesis 4:123, 2001
2. Harris et al., Clin Cancer Res. 7 :1992, 2001
3. Partanen J and DJ Dumont (1999) Curr Top Microbiol Immunol 237:159.
4. Takakura N et al, (1998) Immunity 9:677.
5. Procopio W et al, (1999) J Biol Chem 274:30196.
6. Sato et al. (1993) PNAS 90:9355
7.Gale et al., (1999) Gen Dev 13:1055
8. Van Hoof et al, J Proteome Res 9:1610, 2010

Database References Antigen

Protein RefSeq:	NP_000450.2
Uniprot ID:	Q02763
mRNA RefSeq:	NM_000459.3

Product Specifications

Species reactivity	human
Clone/Ab feature	#tek16 / IgG_1
Cross reactivity	ND
Host	mouse
Clonality	monoclonal
Purification	Protein G purified
Immunogen	recombinant human soluble extracellular domain of TIE-2
Formulation	lyophilized
Buffer	PBS

Stability: The lyophilized antibody is stable at room temperature for up to 1 month. The reconstituted antibody is stable for at least two weeks at 2-8°C. Frozen aliquots are stable for at least 6 months when stored at -20°C.

Reconstitution: Centrifuge vial prior to opening. Reconstitute in sterile water to a concentration of 0.1-1.0 mg/ml.

AVOID REPEATED FREEZE AND THAW CYCLES!

Specificity: The monoclonal antibody will detect native human TIE-2/tek in ELISA experiments and on the surface of different human cell types.

Applications

Western Blot:	Use at 2-2 µg/ml
ELISA:	Use at 1-2 µg/ml
FACS	Use at 2-5 µg/ml
IF/IHC	Use at 1-5 µg/ml (Cryo)

NOTE: OPTIMAL DILUTIONS SHOULD BE DETERMINED BY EACH LABORATORY FOR EACH APPLICATION!

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Handling/Applications

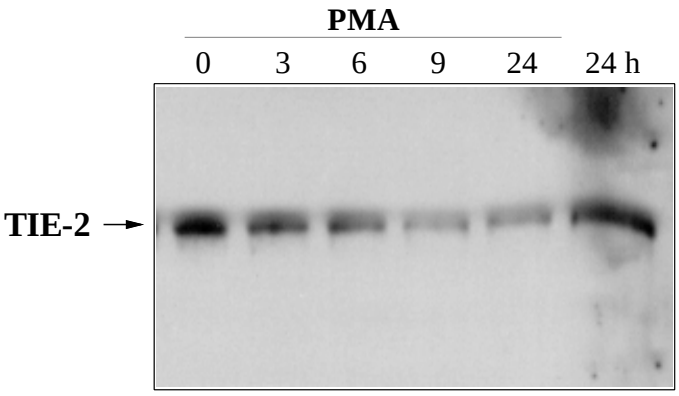

Figure 1: Effects of PMA treatment on TIE-2 . HUVECs (passage 1) were stimulated for the indicated periods of time with PMA at 25 ng/ml or left untreated. Western blot analysis for the presence of TIE-2 protein by immunoprecipitation using antibodies directed against the extracellular domain of human TIE-2 (IP: TEK16 [#101-M54]; Western: TEK2 [#101-M50]).

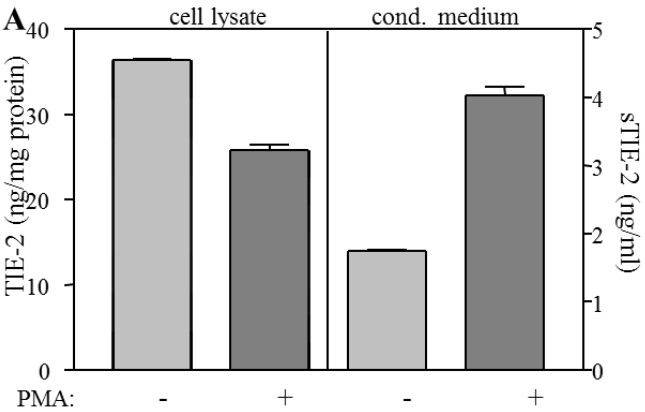

Figure 2: Quantification of soluble and cellular TIE-2 by sandwich ELISA. A. CM and cell lysates from HUVECs treated with PMA (25ng/ml) or left untreated were analysed by Sandwich ELISA for the concentrations of sTIE-2 or TIE-2. For capturing anti-human TIE-2 Cl.16 **[#101-M54]** was used, for the detection a mixture of biotinylated anti-human TIE-2 Cl. 2 [**#101-M50**] and Cl.9 [**#101-M52**].

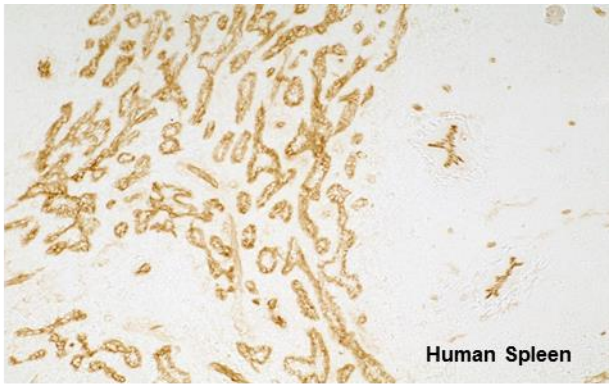

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Figure 3: IHC with cryo sections of human spleen. The experiment was performed by Prof. Dr. Birte Steiniger, Institute of Anatomy and Cell Biology Robert-Koch-Str. 8, D-35037 Marburg, Germany

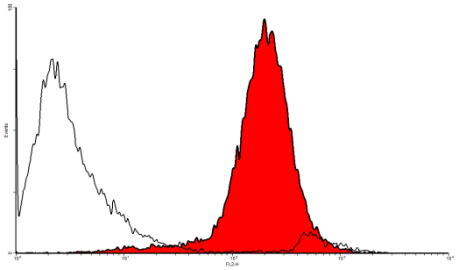

Figure 4: FACS analysis with human primary lymphatic endothelial cells (HDLEC). As secondary antibody anti-mouse IgG-PE was used.