



Qty: 100 µg/400 µL

Rabbit anti-Tie2

Catalog No. 42-5100

Lot No.

Rabbit anti-Tie2

FORM

This polyclonal antibody is supplied as a 400 µL aliquot at a concentration of 0.25 mg/mL in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. This antibody is epitope-affinity purified from rabbit antiserum.

PAD: ZMD.572

IMMUNOGEN

Synthetic peptide derived from the C-terminal region of the human, mouse, rat, bovine, and predicted chimpanzee Tie2 proteins

SPECIFICITY

This antibody is specific for the Tie2 (angiopoietin 1 receptor, tyrosine-protein kinase receptor TEK, tunica interna endothelial cell kinase, CD202b antigen) protein. On Western blots, it identifies the target band at ~140 kDa.

REACTIVITY

Reactivity has been confirmed with mouse lung homogenates. Based on amino acid sequence homology, reactivity with human, rat, bovine, and chimpanzee is expected.

| Sample | Western Blotting |
|------------|------------------|
| Mouse | ++ |
| Human | ND |
| Rat | ND |
| Bovine | ND |
| Chimpanzee | ND |

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

Western Blotting: 2-3 µg/mL

STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

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PI425100

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BACKGROUND

Tie2 (angiopoietin 1 receptor, tyrosine-protein kinase receptor TEK, tunica interna endothelial cell kinase, CD202b antigen) is expressed almost exclusively in endothelial cells in mice, rats, and humans. The ligands for the Tie2 receptor are angiopoietin 1 and 2. Angiopoietins are a class of growth factors that activate the Tie2 receptor and play important roles in the regulation of angiogenesis.¹ The Tie2 signaling pathway appears to be critical for endothelial cell-smooth muscle cell communication in venous morphogenesis. Tie2 probably regulates endothelial cell proliferation, differentiation and guides the proper patterning of endothelial cells during blood vessel formation. Defects in Tie2 are a cause of dominantly inherited venous malformations (VMCM), an error of vascular morphogenesis characterized by dilated, serpiginous channels.²

Tie2 is closely linked to cancer biology. Expression of Ang1, Ang2 and Tie2 mRNA in cancer cells significantly correlates with microvessel density and advanced gastric cancers.³ Tie2 signaling also coordinately regulates cardiovascular development and early hematopoiesis in vivo.⁴ This receptor is only needed for adult but not fetal hematopoiesis.⁵ Interaction of Tie2 with its ligand Ang1 also maintains hematopoietic stem cells in a quiescent state in the bone marrow niche.⁶ Tie2 mRNA and protein expression increases significantly after myocardial infarction in a rat model.⁷

REFERENCES

1. Li LY, et al. *Pediatr Endocrinol Rev* 2(3):399-408, 2005.
2. Morris PN, et al. *J Mol Med* 83(1):58-63, 2005.
3. Moon WS, et al. *J Korean Med Sci* 21(2):272-278, 2006.
4. Tachibana K, et al. *Mol Cell Biol* 25(11):4693-4702, 2005.
5. Puri MC & Bernstein A. *PNAS* 100(22):12753-12758, 2003.
6. Arai F, et al. *Cell* 118(2):149-161, 2004.
7. Shyu KG, et al. *J Biomed Sci* 11(2):163-171, 2004.

RELATED PRODUCTS

| Product | Conjugate | Cat. No. |
|----------------|------------------|-----------------|
| Protein A | Sepharose® 4B | 10-1041 |
| rec-Protein G | Sepharose® 4B | 10-1241 |

| Conjugate | ZyMAX™ Goat x Rabbit IgG (H+L) | ZyMAX™ Goat x Mouse IgG (H+L) |
|------------------|---------------------------------------|--------------------------------------|
| Purified | 81-6100 | 81-6500 |
| FITC | 81-6111 | 81-6511 |
| TRITC | 81-6114 | 81-6514 |
| Cy™3 | 81-6115 | 81-6515 |
| Cy™5 | 81-6116 | 81-6516 |
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| Biotin | 81-6140 | 81-6540 |

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