

## Tie-2 (G-17): sc-31266

### BACKGROUND

Receptor tyrosine kinases play key roles in signal transduction across cell surfaces in biological systems, including the vascular system. These receptors comprise a large and diverse family of catalytically related proteins that, on the basis of sequence and structural similarities, can be divided into several different evolutionary subfamilies. The cloning and characterization of Tie-1 (also designated Tie), a novel human endothelial cell surface receptor tyrosine kinase, has been reported. The extracellular domain of the predicted Tie-1 protein product has an unusual multidomain structure consisting of a cluster of three epidermal growth factor homology motifs localized between two immunoglobulin-like loops, which are followed by three fibronectin type III repeats next to the transmembrane region. An additional member of this family has been identified as Tie-2 (also designated Tek). Tie-1 and Tie-2 have been shown to be encoded by distinct genes and to represent members of a new class of receptor tyrosine kinases.

### REFERENCES

1. Pawson, T., et al. 1991. Receptor tyrosine kinases: genetic evidence for their role in *Drosophila* and mouse development. *Trends Genet.* 6: 350-356.
2. de Vries, C., et al. 1992. The fms-like tyrosine kinase, a receptor for vascular endothelial growth factor. *Science* 255: 989-991.
3. Partanen, J., et al. 1992. A novel endothelial cell surface receptor tyrosine kinase with extracellular epidermal growth factor homology domains. *Mol. Cell. Biol.* 12: 1698-1707.
4. Dumont, D.J., et al. 1992. Tek, a novel tyrosine kinase gene located on mouse chromosome 4, is expressed in endothelial cells and their presumptive precursors. *Oncogene* 7: 1471-1480.
5. Sato, T.N., et al. 1993. Tie-1 and Tie-2 define another class of putative receptor tyrosine kinase genes expressed in early embryonic vascular system. *Proc. Natl. Acad. Sci. USA* 90: 9355-9358.

### CHROMOSOMAL LOCATION

Genetic locus: TEK (human) mapping to 9p21.2; Tek (mouse) mapping to 4 C5.

### SOURCE

Tie-2 (G-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of Tie-2 of human origin.

### PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-31266 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### APPLICATIONS

Tie-2 (G-17) is recommended for detection of Tie-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Tie-2 (G-17) is also recommended for detection of Tie-2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Tie-2 siRNA (h): sc-36677, Tie-2 siRNA (m): sc-36678, Tie-2 shRNA Plasmid (h): sc-36677-SH, Tie-2 shRNA Plasmid (m): sc-36678-SH, Tie-2 shRNA (h) Lentiviral Particles: sc-36677-V and Tie-2 shRNA (m) Lentiviral Particles: sc-36678-V.

Molecular Weight of Tie-2: 140 kDa.

Positive Controls: ECV304 cell lysate: sc-2269 or HUV-EC-C whole cell lysate: sc-364180.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### SELECT PRODUCT CITATIONS

1. Androutsellis-Theotokis, A., et al. 2009. Targeting neural precursors in the adult brain rescues injured Dopamine neurons. *Proc. Natl. Acad. Sci. USA* 106: 13570-13575.
2. Androutsellis-Theotokis, A., et al. 2010. Angiogenic factors stimulate growth of adult neural stem cells. *PLoS ONE* 5: e9414.
3. Androutsellis-Theotokis, A., et al. 2010. Cholera toxin regulates a signaling pathway critical for the expansion of neural stem cell cultures from the fetal and adult rodent brains. *PLoS ONE* 5: e10841.
4. Rosa, A.I., et al. 2010. The angiogenic factor angiopoietin-1 is a proneurogenic peptide on subventricular zone stem/progenitor cells. *J. Neurosci.* 30: 4573-4584.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.



Try **Tie-2 (3A5): sc-293414**, our highly recommended monoclonal alternative to Tie-2 (G-17).