SANTA CRUZ BIOTECHNOLOGY, INC.

Tie-1 (C-18): sc-342

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: TIE1 (human) mapping to 1p34.2, TEK (human) mapping to 9p21.2; Tie1 (mouse) mapping to 4 D2.1, Tek (mouse) mapping to 4 C5.

SOURCE

Tie-1 (C-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Tie-1 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-342 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Tie-1 (C-18) is recommended for detection of Tie-1 and, to a lesser extent, Tie-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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-1 (C-18) is also recommended for detection of Tie-1 and, to a lesser extent, Tie-2 in additional species, including canine, bovine, porcine and avian.

Molecular Weight of Tie-1: 110 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, K-562 whole cell lysate: sc-2203 or ECV304 cell lysate: sc-2269.

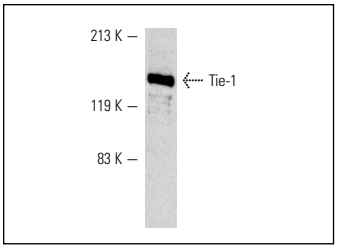
STORAGE

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

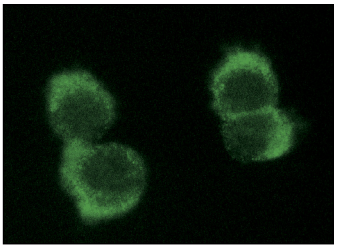
RESEARCH USE

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

DATA



Tie-1 (C-18): sc-342. Western blot analysis of Tie-1 expression in NIH/3T3 whole cell lysate.



Tie-1 (C-18): sc-342. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing membrane staining.

SELECT PRODUCT CITATIONS

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3. Tonchev, A.B., et al. 2007. Expression of angiogenic and neurotrophic factors in the progenitor cell niche of adult monkey subventricular zone. Neuroscience 144: 1425-1435.
4. Renne, C., et al. 2007. High expression of several tyrosine kinases and activation of the PI3K/AKT pathway in mediastinal large B cell lymphoma reveals further similarities to Hodgkin lymphoma. Leukemia 21: 780-787.
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6. Nakayama, T., et al. 2007. Expression of angiopoietin-1, 2 and 4 and Tie-1 and 2 in gastrointestinal stromal tumor, leiomyoma and schwannoma. World J. Gastroenterol. 13: 4473-4479.
7. Seval, Y., et al. 2008. The distribution of angiopoietin-1, angiopoietin-2 and their receptors tie-1 and tie-2 in the very early human placenta. Placenta 29: 809-815.
8. Demir, R. 2009. Expression of VEGF receptors VEFGR-1 and VEGFR-2, angiopoietin receptors Tie-1 and Tie-2 in chorionic villi tree during early pregnancy. Folia Histochem. Cytobiol. 47: 435-445.
9. Medici, D., et al. 2010. Conversion of vascular endothelial cells into multipotent stem-like cells. Nat. Med. 16: 1400-1406.