

Brk (C-18): sc-1188

BACKGROUND

Tyrosine protein kinases play crucial roles in cell proliferation, survival, adhesion and motility by regulating ligand-mediated signal transduction, cell-cycle progression and cytoskeleton function. Tyrosine kinases may also bring about the transformation of malignant cells. Breast tumor kinase, Brk (also known as PTK6), along with its murine homolog, Sik (Src-related intestinal kinase) is one such kinase. Brk is a member of a distinct family of intracellular tyrosine kinases thought to be related to the Src family of tumor-related kinases. Brk exhibits the features of a novel non-receptor tyrosine kinase, including N-terminal SH3 and SH2 domains. Brk is specifically expressed in epithelial tissues and is restricted to cell layers immediately above the proliferative cell zone in skin and alimentary canal lining. Expression of Brk in normal tissues is relatively restricted with the highest mRNA levels found in colon, small intestine and prostate. Brk is strongly expressed in many breast carcinomas but not in normal breast tissue. Brk protein is also capable of autophosphorylation, which may play a role in its regulation.

CHROMOSOMAL LOCATION

Genetic locus: PTK6 (human) mapping to 20q13.33.

SOURCE

Brk (C-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Brk 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-1188 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Brk (C-18) is recommended for detection of Brk of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Brk siRNA (h): sc-38937, Brk shRNA Plasmid (h): sc-38937-SH and Brk shRNA (h) Lentiviral Particles: sc-38937-V.

Molecular Weight of Brk: 50 kDa.

Positive Controls: T24 cell lysate: sc-2292 or T-47D cell lysate: sc-2293.

RESEARCH USE

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

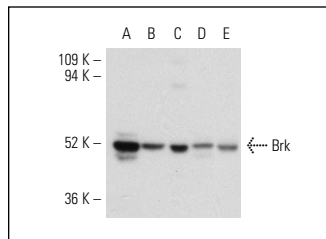
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

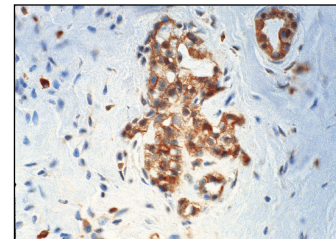
STORAGE

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

DATA



Brk (C-18): sc-1188. Western blot analysis of Brk expression in T-47D (A), SW480 (B), T24 (C), ZR-75-1 (D) and MDA-MB-231 (E) whole cell lysates.



Brk (C-18): sc-1188. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing cytoplasmic and cell junction staining.

SELECT PRODUCT CITATIONS

1. Llor, X., et al. 1999. BRK/Sik expression in the gastrointestinal tract and in colon tumors. *Clin. Cancer Res.* 5: 1767-1777.
2. Aubele, M., et al. 2010. *In situ* quantification of HER2-protein tyrosine kinase 6 (PTK6) protein-protein complexes in paraffin sections from breast cancer tissues. *Br. J. Cancer* 103: 663-667.
3. Palka-Hamblin, H.L., et al. 2010. Identification of β -catenin as a target of the intracellular tyrosine kinase PTK6. *J. Cell Sci.* 123: 236-245.
4. Anzinger, J.J., et al. 2010. Native low-density lipoprotein uptake by macrophage colony-stimulating factor-differentiated human macrophages is mediated by macropinocytosis and micropinocytosis. *Arterioscler. Thromb. Vasc. Biol.* 30: 2022-2031.
5. Fan, C., et al. 2011. Detection of Brk expression in non-small cell lung cancer: clinicopathological relevance. *Tumour Biol.* 32: 873-880.
6. Gao, Y., et al. 2012. Suppressor of cytokine signaling 3 inhibits breast tumor kinase activation of STAT3. *J. Biol. Chem.* 287: 20904-20912.
7. Jin, L., et al. 2013. p90 RSK2 mediates antiankist signals by both transcription-dependent and -independent mechanisms. *Mol. Cell. Biol.* 33: 2574-2585.
8. Patel, P., et al. 2015. Brk/protein tyrosine kinase 6 phosphorylates p27^{Kip1}, regulating the activity of cyclin D-cyclin-dependent kinase 4. *Mol. Cell. Biol.* 35: 1506-1522.

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