

Brk (G-6): sc-166171

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; Ptk6 (mouse) mapping to 2 H4.

SOURCE

Brk (G-6) is a mouse monoclonal antibody raised against amino acids 106-195 mapping within an internal region of Brk of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Brk (G-6) is available conjugated to agarose (sc-166171 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166171 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166171 PE), fluorescein (sc-166171 FITC), Alexa Fluor[®] 488 (sc-166171 AF488), Alexa Fluor[®] 546 (sc-166171 AF546), Alexa Fluor[®] 594 (sc-166171 AF594) or Alexa Fluor[®] 647 (sc-166171 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-166171 AF680) or Alexa Fluor[®] 790 (sc-166171 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Brk (G-6) is recommended for detection of Brk of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Brk siRNA (h): sc-38937, Brk siRNA (m): sc-38940, Brk shRNA Plasmid (h): sc-38937-SH, Brk shRNA Plasmid (m): sc-38940-SH, Brk shRNA (h) Lentiviral Particles: sc-38937-V and Brk shRNA (m) Lentiviral Particles: sc-38940-V.

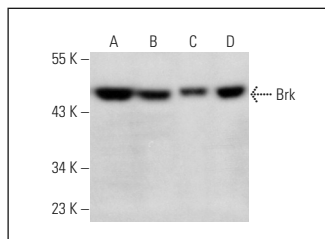
Molecular Weight of Brk: 50 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, T-47D cell lysate: sc-2293 or Brk (h): 293T Lysate: sc-112582.

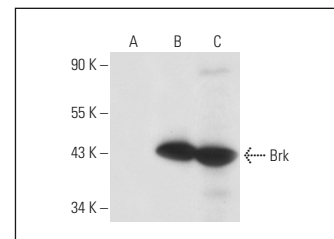
STORAGE

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

DATA



Brk (G-6): sc-166171. Western blot analysis of Brk expression in HeLa (A), T24 (B), MCF7 (C) and MDA-MB-231 (D) whole cell lysates.



Brk (G-6): sc-166171. Western blot analysis of Brk expression in non-transfected 293T: sc-117752 (A), human Brk transfected 293T: sc-112582 (B) and T-47D (C) whole cell lysates.

SELECT PRODUCT CITATIONS

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- Peng, M., et al. 2014. PTK6/Brk is expressed in the normal mammary gland and activated at the plasma membrane in breast tumors. *Oncotarget* 5: 6038-6048.
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- Liu, C., et al. 2021. Pharmacological targeting PTK6 inhibits the JAK2/STAT3 sustained stemness and reverses chemoresistance of colorectal cancer. *J. Exp. Clin. Cancer Res.* 40: 297.
- Arkee, T., et al. 2021. TRAF3 in T cells restrains negative regulators of LAT to promote TCR/CD28 signaling. *J. Immunol.* 207: 322-332.
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- Alwanian, W.M., et al. 2022. Protein tyrosine kinase 6 regulates activation of SRC kinase. *J. Biol. Chem.* E-published.

RESEARCH USE

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

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