

Brk Protein, Human (sf9, GST)

Cat. No.:	HY-P75470
Synonyms:	Protein-tyrosine kinase 6; SRC-related intestinal kinase; Ptk6; Sik
Species:	Human
Source:	Sf9 insect cells
Accession:	Q13882-1 (M1-T451)
Gene ID:	5753
Molecular Weight:	Approximately 70 kDa

PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Solution.
Formulation	Supplied as a 0.2 µm filtered solution of 50 mM Tris, 100 mM NaCl, pH 8.0, 10% glycerol.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background

Brk, a non-receptor tyrosine-protein kinase, plays a versatile role in modulating signaling pathways crucial for the differentiation and maintenance of normal epithelial tissues, as well as tumor growth. Its functions are context-dependent and influenced by cellular type and intracellular localization. Brk exhibits a range of potential substrates, including RNA-binding proteins (KHDRBS1/SAM68, KHDRBS2/SLM1, KHDRBS3/SLM2, SFPQ/PSF), transcription factors (STAT3, STAT5A/B), and various signaling molecules (ARHGAP35/p190RhoGAP, PXN/paxillin, BTK/ATK, STAP2/BKS). Interactions with proteins like ADAM15, EGFR, ERBB2, ERBB3, and IRS4 further highlight its role in diverse signaling pathways. In normal tissues, Brk promotes cellular differentiation and apoptosis, while in tumors, it contributes to cancer progression by enhancing sensitivity to mitogenic signals, promoting proliferation, anchorage-independent survival, and migration/invasion. Association with EGFR, ERBB2, and ERBB3 may particularly contribute to mammary tumor development through enhanced EGF-induced signaling via BTK/AKT and PI3 kinase. Additionally, Brk facilitates migration and proliferation by phosphorylating ARHGAP35/p190RhoGAP and activating RAC1 via CRK/CrKII, promoting migration and invasion. It activates STAT3 and STAT5B to support proliferation, while nuclear and cytoplasmic forms of Brk may have distinct roles in normal epithelia growth regulation and oncogenic signaling pathway activation, respectively. Isoform 2 negatively regulates Brk phosphorylation and its association with other tyrosine-phosphorylated proteins.

Caution: Product has not been fully validated for medical applications. For research use only.

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