

# Rak (H-12): sc-166478

## BACKGROUND

Src is the human homolog of the v-Src gene of the Rous sarcoma virus, also known as avian sarcoma virus or ASV. Src is the first proto-oncogenic non-receptor tyrosine kinase characterized in human. By virtue of common structural motifs, the Src family is composed of nine members in vertebrates, including Src, Yes, Fgr, Frk, Fyn, Lyn, Hck, Lck and Blk. Src-family kinases transduce signals that are involved in the control of a variety of cellular processes, including proliferation, differentiation, motility and adhesion. Src-family kinases contain an amino-terminal cell membrane anchor followed by an SH3 domain (involved in modular association) and an SH2 domain (involved in activation). Rak (also designated GTK, PTK5 and Frk, for Fyn-related kinase) is an epithelial tissue-specific kinase. The human Rak gene maps to chromosome 6q22.1 and encodes a 505 amino acid protein.

## CHROMOSOMAL LOCATION

Genetic locus: FRK (human) mapping to 6q22.1; Frk (mouse) mapping to 10 B1.

## SOURCE

Rak (H-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 482-505 at the C-terminus of Rak of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rak (H-12) is available conjugated to agarose (sc-166478 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166478 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166478 PE), fluorescein (sc-166478 FITC), Alexa Fluor® 488 (sc-166478 AF488), Alexa Fluor® 546 (sc-166478 AF546), Alexa Fluor® 594 (sc-166478 AF594) or Alexa Fluor® 647 (sc-166478 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166478 AF680) or Alexa Fluor® 790 (sc-166478 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166478 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

Rak (H-12) is recommended for detection of Rak 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), 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 Rak siRNA (h): sc-39231, Rak siRNA (m): sc-39232, Rak shRNA Plasmid (h): sc-39231-SH, Rak shRNA Plasmid (m): sc-39232-SH, Rak shRNA (h) Lentiviral Particles: sc-39231-V and Rak shRNA (m) Lentiviral Particles: sc-39232-V.

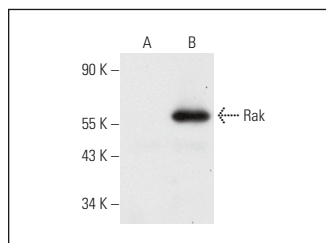
Molecular Weight of Rak: 54 kDa.

Positive Controls: Rak (h): 293T Lysate: sc-113821.

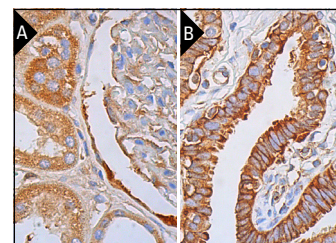
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Rak (H-12): sc-166478. Western blot analysis of Rak expression in non-transfected: sc-117752 (A) and human Rak transfected: sc-113821 (B) 293T whole cell lysates.



Rak (H-12): sc-166478. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in glomeruli and cells in tubules (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

1. 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.
2. Chattopadhyay, R., et al. 2017. Resolvin D1 via prevention of ROS-mediated SHP2 inactivation protects endothelial adherens junction integrity and barrier function. *Redox Biol.* 12: 438-455.
3. Mani, A.M., et al. 2018. Cholesterol crystals increase vascular permeability by inactivating SHP2 and disrupting adherens junctions. *Free Radic. Biol. Med.* 123: 72-84.
4. Wang, Y., et al. 2022. FRK inhibits glioblastoma progression via phosphorylating YAP and inducing its ubiquitylation and degradation by Siah1. *Neuro Oncol.* 24: 2107-2120.

## 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.

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