

# PYK2 (H-102): sc-9019

## BACKGROUND

Focal adhesion kinase (FAK) was initially identified as a substrate for the intrinsic protein tyrosine kinase activity of Src-encoded pp60. The deduced amino acid sequence of FAK p125 has shown it to be a cytoplasmic protein tyrosine kinase whose sequence and structural organization are unique compared to other protein families described. A putative new member of the FAK family, designated PYK2 (proline-rich tyrosine kinase 2), exhibits 61% sequence identity with FAK over its kinase domain. PYK2 (also designated CAK $\beta$  or RAFTK) is highly expressed in the central nervous system. Activation of the kinase leads to modulation of ion channel function and the activation of the MAPK signaling pathway. PYK2 is rapidly phosphorylated on tyrosine residues in response to stimuli that increase intracellular calcium levels and compounds that activate members of the PKC family of kinases, such as phorbol esters.

## CHROMOSOMAL LOCATION

Genetic locus: PTK2B (human) mapping to 8p21.2; Ptk2b (mouse) mapping to 14 D1.

## SOURCE

PYK2 (H-102) is a rabbit polyclonal antibody raised against amino acids 1-102 mapping at the N-terminus of PYK2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

PYK2 (H-102) is recommended for detection of PYK2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

PYK2 (H-102) is also recommended for detection of PYK2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PYK2 siRNA (h): sc-36332, PYK2 siRNA (m): sc-36333, PYK2 shRNA Plasmid (h): sc-36332-SH, PYK2 shRNA Plasmid (m): sc-36333-SH, PYK2 shRNA (h) Lentiviral Particles: sc-36332-V and PYK2 shRNA (m) Lentiviral Particles: sc-36333-V.

Molecular Weight of PYK2: 120 kDa.

Positive Controls: PYK2 (h): 293T Lysate: sc-115595, PC-12 cell lysate: sc-2250 or Ramos cell lysate: sc-2216.

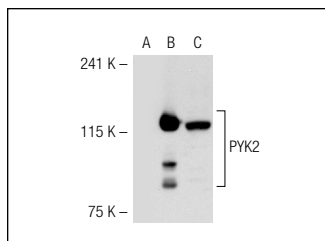
## STORAGE

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

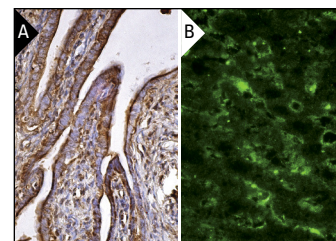
## RESEARCH USE

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

## DATA



PYK2 (H-102): sc-9019. Western blot analysis of PYK2 expression in non-transfected 293T: sc-117752 (A), human PYK2 transfected 293T: sc-115595 (B) and Ramos (C) whole cell lysates.



PYK2 (H-102): sc-9019. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic staining of glandular cells (A). Immunofluorescence staining of normal mouse liver frozen section showing cytoplasmic staining (B).

## SELECT PRODUCT CITATIONS

- Abdel-Ghany, M., et al. 2002. Focal adhesion kinase activated by  $\beta_4$  integrin ligation to mCLCA1 mediates early metastatic growth. *J. Biol. Chem.* 277: 34391-34400.
- Xiao, X., et al. 2013. c-Yes regulates cell adhesion at the apical ectoplasmic specialization-blood-testis barrier axis via its effects on protein recruitment and distribution. *Am. J. Physiol. Endocrinol. Metab.* 304: E145-E159.
- Xiao, X., et al. 2013. Intercellular adhesion molecule-2 is involved in apical ectoplasmic specialization dynamics during spermatogenesis in the rat. *J. Endocrinol.* 216: 73-86.
- Arnold, K.M., et al. 2013. Loss of focal adhesion kinase enhances endothelial barrier function and increases focal adhesions. *Microcirculation* 20: 637-649.
- Yang, C.M., et al. 2013. NADPH oxidase/ROS-dependent PYK2 activation is involved in TNF- $\alpha$ -induced matrix metalloproteinase-9 expression in rat heart-derived H9c2 cells. *Toxicol. Appl. Pharmacol.* 272: 431-442.
- Hsu, C.K., et al. 2015. Sphingosine-1-phosphate mediates COX-2 expression and PGE2 /IL-6 secretion via c-Src-dependent AP-1 activation. *J. Cell. Physiol.* 230: 702-715.
- Chien, P.T., et al. 2015. Induction of HO-1 by carbon monoxide releasing molecule-2 attenuates thrombin-induced COX-2 expression and hypertrophy in primary human cardiomyocytes. *Toxicol. Appl. Pharmacol.* 289: 349-359.



Try **PYK2 (E-3): sc-393181** or **PYK2 (F-6): sc-74539**, our highly recommended monoclonal alternatives to PYK2 (H-102). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **PYK2 (E-3): sc-393181**.