

PYK2 (F-6): sc-74539

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 β 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.

REFERENCES

- Schaller, M.D., et al. 1992. pp125FAK, a structurally distinctive protein-tyrosine kinase associated with focal adhesions. *Proc. Natl. Acad. Sci. USA* 89: 5192-5196.
- Hanks, S.K., et al. 1992. Focal adhesion protein-tyrosine kinase phosphorylated in response to cell attachment to fibronectin. *Proc. Natl. Acad. Sci. USA* 89: 8487-8491.

CHROMOSOMAL LOCATION

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

SOURCE

PYK2 (F-6) is a mouse monoclonal antibody raised against amino acids 1-102 mapping at the N-terminus of PYK2 of human origin.

PRODUCT

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

APPLICATIONS

PYK2 (F-6) is recommended for detection of PYK2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 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.

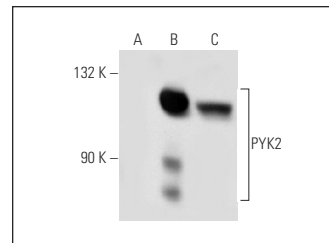
Molecular Weight of PYK2: 120 kDa.

Positive Controls: PYK2 (h): 293T Lysate: sc-115595, Jurkat whole cell lysate: sc-2204 or Ramos cell lysate: sc-2216.

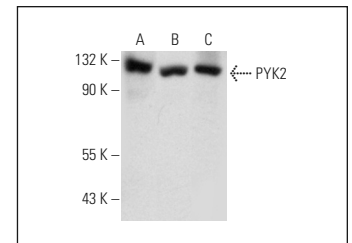
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PYK2 (F-6): sc-74539. 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 (F-6): sc-74539. Western blot analysis of PYK2 expression in PMA treated Jurkat whole cell lysate (A), RAW 264.7 whole cell lysate (B) and rat brain tissue extract (C).

SELECT PRODUCT CITATIONS


- Kundumani-Sridharan, V., et al. 2013. 12/15-lipoxygenase mediates high-fat diet-induced endothelial tight junction disruption and monocyte transmigration: a new role for 15(S)-hydroxyeicosatetraenoic acid in endothelial cell dysfunction. *J. Biol. Chem.* 288: 15830-15842.
- Chattopadhyay, R., et al. 2015. 12/15-lipoxygenase-dependent ROS production is required for diet-induced endothelial barrier dysfunction. *J. Lipid Res.* 56: 562-577.
- Wang, C., et al. 2022. Sevoflurane exposure during the second trimester induces neurotoxicity in offspring rats by hyperactivation of PARP-1. *Psychopharmacology* 239: 3031-3045.

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.



See **PYK2 (E-3): sc-393181** for PYK2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.