SANTA CRUZ BIOTECHNOLOGY, INC.

PYK2 (Y-129): sc-100379

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 CAKβ 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

1. 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.
2. 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.
3. Lipfert, L., et al. 1992. Integrin-dependent phosphorylation of the protein tyrosine kinase pp125FAK in platelets. J. Cell Biol. 119: 905-912.
4. Guan, J.L., et al. 1992. Regulation of focal adhesion-associated protein tyrosine kinase by both cellular adhesion and oncogenic transformation. Nature 359: 690-692.
5. Schaller, M.D., et al. 1994. Autophosphorylation of the focal adhesion-associated protein tyrosine kinase, pp125FAK, directs SH2-dependent binding of pp60Src. Mol. Cell. Biol. 14: 1680-1688.
6. Lev, S., et al. 1995. Protein tyrosine kinase PYK2 involved in Ca^{2+}-induced regulation of ion channel and MAP kinase functions. Nature 376: 737-745.

CHROMOSOMAL LOCATION

Genetic locus: PTK2B (human) mapping to 8p21.1.

SOURCE

PYK2 (Y-129) is a mouse monoclonal antibody raised against recombinant PYK2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

PYK2 (Y-129) is recommended for detection of PYK2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] 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 shRNA Plasmid (h): sc-36332-SH and PYK2 shRNA (h) Lentiviral Particles: sc-36332-V.

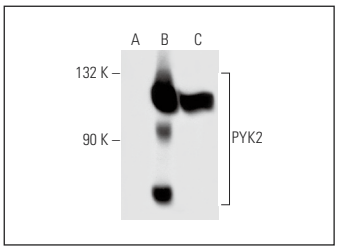
Molecular Weight of PYK2: 120 kDa.

Positive Controls: PYK2 (h): 293T Lysate: sc-115595, PC-3 cell lysate: sc-2220 or Ramos cell lysate: sc-2216.

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).

DATA



PYK2 (Y-129): sc-100379. 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.