

p-PYK2 (Tyr 881): sc-16825

BACKGROUND

PYK2 (proline-rich tyrosine kinase 2), a putative member of the FAK family, exhibits 61% sequence identity with FAK within its kinase domain. Like FAK, PYK2 has been shown to be a cytoplasmic protein tyrosine kinase, which is a substrate for the intrinsic protein tyrosine kinase activity of pp60Src. PYK2 (also designated CAK β or RAFTK) migrates with an apparent molecular mass of 112 kDa and is highly expressed in the central nervous system. PYK2 is rapidly phosphorylated on tyrosine residues in response to stimuli, which increases intracellular calcium levels and, in turn, activates members of the PKC family of kinases. Specifically, PYK2 is phosphorylated on Tyr 402 after stimulation with heregulin. This promotes the formation of a multiprotein complex that mediates the phosphorylation of p190 RhoGAP by Src. Activation of the PYK2 kinase leads to modulation of ion channel function and the activation of the MAPK signaling pathway. PYK2 also contains phosphorylation sites within the activation loop at Tyr 579 and Tyr 580 and on the potential GRB2-binding site at Tyr 881.

REFERENCES

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- Zrihan-Licht, S., et al. 2000. RAFTK/PYK2 tyrosine kinase mediates the association of p190 RhoGAP with RasGAP and is involved in breast cancer cell invasion. *Oncogene* 19: 1318-1328.
- Lyons, P.D., et al. 2001. Inhibition of the catalytic activity of cell adhesion kinase β by protein-tyrosine phosphatase-PEST-mediated dephosphorylation. *J. Biol. Chem.* 276: 24422-24431.

CHROMOSOMAL LOCATION

Genetic locus: PTK2B (human) mapping to 8p21.2.

SOURCE

p-PYK2 (Tyr 881) is available as either goat (sc-16825) or rabbit (sc-16825-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing phosphorylated Tyr 881 of PYK2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-16825 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-PYK2 (Tyr 881) is recommended for detection of Tyr 881 phosphorylated PYK2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

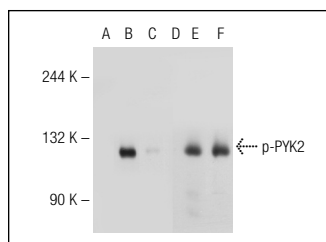
p-PYK2 (Tyr 881) is also recommended for detection of correspondingly phosphorylated Tyr on PYK2 in additional species, including equine, canine, bovine and porcine.

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 p-PYK2: 120 kDa.

Positive Controls: PYK2 (h): 293T Lysate: sc-115595 or Jurkat + PMA cell lysate: sc-24718.

DATA



Western blot analysis of PYK2 phosphorylation in non-transfected: sc-117752 (A, D), untreated human PYK2 transfected: sc-115595 (B, E) and lambda protein phosphatase (sc-200312A) treated human PYK2 transfected: sc-115595 (C, F) 293T whole cell lysates. Antibodies tested include p-PYK2 (Tyr 881)-R: sc-16825-R (A, B, C) and PYK2 (N-19): sc-1514 (D, E, F).

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.

PROTOCOLS

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