

PTK2B Antibody / PYK2 / Protein tyrosine kinase 2 beta (FY12929)

Catalog No.	Formulation	Size
FY12929	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
UniProt	Q14289
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This PTK2B antibody is available for research use only.

Description

PTK2B antibody detects Protein tyrosine kinase 2 beta, also known as PYK2, a non-receptor tyrosine kinase involved in calcium-dependent signal transduction, cytoskeletal remodeling, and synaptic plasticity. Encoded by the PTK2B gene on chromosome 8p21.2, PYK2 belongs to the focal adhesion kinase (FAK) family and mediates signals downstream of G-protein-coupled receptors, integrins, and ion channels. It is abundantly expressed in brain, immune cells, and epithelial tissues, where it regulates adhesion, migration, and intracellular calcium responses.

Structurally, PYK2 is a 1,009-amino-acid cytoplasmic protein of approximately 116 kilodaltons containing an N-terminal FERM domain for membrane association, a central kinase domain, and a C-terminal focal adhesion-targeting (FAT) domain. Activation occurs through autophosphorylation at tyrosine 402, creating a binding site for Src family kinases and downstream effectors. The protein localizes to focal adhesions and postsynaptic densities, linking calcium signals to cytoskeletal dynamics and synaptic strength.

The PTK2B antibody is widely used in neuroscience, immunology, and cancer biology research to study focal adhesion

signaling, neuronal activity, and cell migration. Western blot analysis detects a 116 kilodalton band corresponding to PYK2, while immunofluorescence shows punctate cytoplasmic and perinuclear staining consistent with activated signaling foci. This antibody enables exploration of calcium-sensitive kinase pathways and their contribution to cell communication and motility.

Functionally, PYK2 mediates integrin and calcium-dependent signaling that regulates cytoskeletal rearrangement, vesicle trafficking, and neuronal transmission. In the nervous system, PYK2 modulates synaptic plasticity and learning, while in immune cells it controls adhesion and migration. Dysregulation of PTK2B expression or activity has been linked to Alzheimer's disease, inflammatory disorders, and cancer metastasis. The PTK2B antibody provides a versatile reagent for investigating kinase activation, intracellular signaling dynamics, and calcium-dependent regulation. NSJ Bioreagents validates this antibody for western blotting, immunohistochemistry, and immunofluorescence, ensuring specificity and reproducibility in studies of kinase signaling and cellular motility.

Application Notes

Optimal dilution of the PTK2B antibody should be determined by the researcher.

Immunogen

E.coli-derived human PYK2/PTK2B recombinant protein (Position: K35-R770) was used as the immunogen for the PTK2B antibody.

Storage

After reconstitution, the PTK2B antibody can be stored for up to one month at 4°C. For long-term, aliquot and store at -20°C. Avoid repeated freezing and thawing.