

PYK2 (Human), Active

Recombinant protein expressed in Sf9 cells

Cat# CY-SPP92

Lot No. P022-1
5 µg 0.1 µg/µl

Background:

PYK2 (also known as FAK2/RAFTK) is a member of the focal adhesion PTK family. PYK2/FAK2 can be activated by a variety of extracellular signals that elevate intracellular calcium concentration, and by stress signals (1). Unlike FAK, which is widely expressed in various tissues and links transmembrane integrin receptors to intracellular pathways, PYK2/FAK2 is expressed mainly in the central nervous system and in cells derived from hematopoietic lineages. In osteoclasts, although FAK is expressed, PYK2/FAK2 appears to be the predominant mediator of integrin alpha(v)beta3 signaling events that influence osteoclast physiology and pathology (2).

Product Description:

Recombinant human PYK2 (360-690) was expressed by baculovirus in Sf9 cells using an N-terminal His tag. The gene accession number is NM_004103.

Gene Aliases:

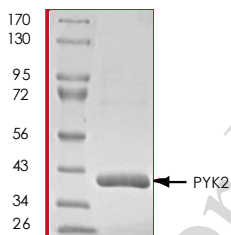
FAK2, PTK2B, CADTK, FADK2, CAKB, PKB, PTK, RAFTK

Formulation:

Recombinant protein stored in 50mM Tris-HCl, pH 7.5, 150mM NaCl, 0.25mM DTT, 0.1mM EGTA, 0.1mM EDTA, 0.1mM PMSF, 25% glycerol.

Purity & Molecular Weight:

The purity was determined to be >90% by densitometry. Approx. MW 39kDa.



Storage:

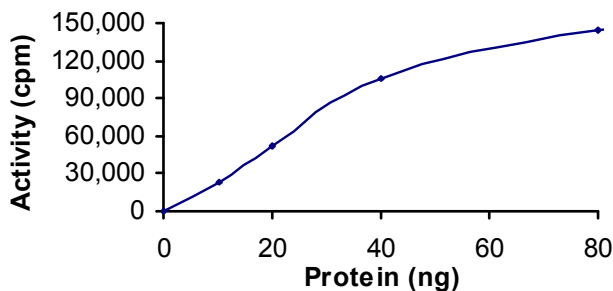
Store product at -70 °C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

Stability:

1 year at -70 °C from date of shipment.

Specific Activity:

The specific activity was determined to be 254 nmol /min/mg as per Activity Assay Protocol.



Activity Assay Protocol:

Assay activity of the kinase in a 25 μ L reaction consisting of 5 μ L of 5 X Kinase Assay Buffer, 10 μ L of 1 mg/ml the Substrate Solution, 5 μ L of diluted kinase and 5 μ L of 250 μ M ATP solution containing [γ - 32 P] ATP (0.167 μ Ci/ μ L). Start the reaction by adding the ATP solution. Incubate for 15 minutes at 30°C. Terminate the reaction by spotting 20 μ L of the reaction mixture onto phosphocellulose P81 paper. Air-dry the P81 paper and sequentially wash 4 times for approximately 10 minutes each in 1% phosphoric acid with constant gentle stirring. Count the P81 paper in a liquid scintillation counter.

Substrate Solution:

Poly (Glu:Tyr, 4:1) synthetic peptide substrate diluted in distilled H₂O to a final concentration of 1 mg/ml.

5 X Kinase Assay Buffer:

25mM MOPS pH 7.2, 12.5mM β -glycerol-phosphate, 20mM MgCl₂, 12.5mM MnCl₂, 5mM EGTA, 2mM EDTA. Add 0.25mM DTT to Kinase Assay Buffer prior to use.

References:

1. Avraham, H. et al: RAFTK/Pyk2-mediated cellular signalling. Cell Signal. 2000 Mar;12(3):123-33.
2. Xiong, W C. et al: PYK2 and FAK in osteoclasts. Front Biosci. 2003 Sep 1;8:d1219-26.

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