

SYK (Human), Active

Full-length recombinant protein expressed in Sf9 cells

Cat# CY-SPS52

Lot No. P263-2
5 µg 0.1 µg/µl

Background:

SYK is a non-receptor protein tyrosine kinase that is widely expressed in hematopoietic cells. It is involved in coupling activated immunoreceptors to downstream signaling events that mediate diverse cellular responses, including proliferation, differentiation, and phagocytosis. In B cells, SYK plays a crucial role in intracellular signal transduction induced by oxidative stress as well as antigen receptor engagement (1). SYK has been shown to act as a potential tumor suppressor in breast cancer. Absence of SYK protein in primary breast tumors is correlated with poor outcomes. SYK deficient cells have increased motility that is restored to normalcy by replacement with wild-type SYK (2).

Product Description:

Recombinant full-length human SYK was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag. The gene accession number is NM_003177.

Gene Aliases:

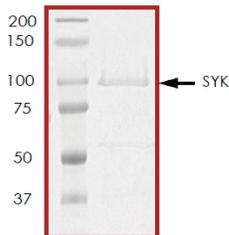
N/A

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 100kDa.



Storage:

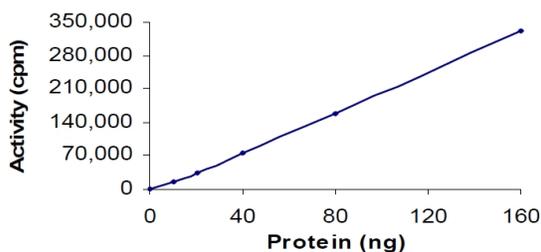
Store product at -70 °C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

Stability:

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

**Specific Activity:**

The specific activity was determined to be 96 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, 5 μ L of 1 mg/ml the Substrate Solution, 10 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.Takano, T. et al: Role of protein-tyrosine kinase syk in oxidative stress signaling in B cells. Antioxid Redox Signal. 2002 Jun;4(3):533-41.
- 2.Navara, C S.: The spleen tyrosine kinase (Syk) in human disease, implications for design of tyrosine kinase inhibitor based therapy. Curr Pharm Des. 2004;10(15):1739-44.

CycLex Co., Ltd

1063-103 Tera-Sawaoka, Ina, Nagano, Japan 396-0002

Fax: 81-265-76-7618

e-mail: info@cyclex.co.jp

URL: <http://www.cyclex.co.jp>