Data Sheet (Cat.No.TMPY-04391)

TargetMol

Lyn Protein, Human, Recombinant (GST)

General Information

Synonyms:	JTK8;LYN proto-oncogene, Src family tyrosine kinase;p56Lyn;p53Lyn
Protein Construction:	A DNA sequence encoding the human LYN isoform a (NP_002341.1) (Met 1-Pro 512) was fused with the GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	P07948-1
Molecular Weight:	84.8 kDa (predicted); 75 kDa (reducing conditions)

QC Testing

Biological Activity:	The specific activity was determined to be 30 nmol/min/mg using Poly(Glu,Tyr) 4:1 as substrate.
Purity:	> 94 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Supplied as sterile 50 mM Tris, 100 mM NaCl, pH 8.0, 0.5 mM Reduced Glutathione, 10% gly, 0.5 mM PMSF.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

Tyrosine-protein kinase Lyn is a member of the Src family of protein tyrosine kinases, which is mainly expressed in hematopoietic cells, in neural tissues liver, and adipose tissue. Tyrosine-protein kinase Lyn has many functions. Lyn kinase may downregulate the expression of stem cell growth factor receptor (KIT). Lyn kinase Acts as an effector of EpoR (erythropoietin receptor) in controlling KIT expression and may play a central role in erythroid differentiation during the switch between proliferation and maturation. Lyn kinase also acts as a positive regulator of cell movement while negatively regulating adhesion to stromal cells by inhibiting the ICAM-1-binding activity of beta-2 integrins. Lyn kinase relays suppressing signals from the chemokine receptor CXCR4 to beta-2 integrin LFA-1 in hematopoietic precursors. This kinase is involved in the induction of stress-activated protein kinase (SAPK),

but not ERK or p38 MAPK, in response to genotoxic agents. In a word, Lyn kinase functions primarily as a negative regulator, but can also function as an activator, depending on the context. Tyrosine-protein kinase Lyn is Required for the initiation of the B-cell response, but also its down-regulation and termination. It also plays an important role in the regulation of B-cell differentiation, proliferation, survival, and apoptosis, and is important for immune self-tolerance. It has been reported that Lyn kinase plays a role in the inflammatory response to bacterial lipopolysaccharide. Lyn kinase Mediates the responses to cytokines and growth factors in hematopoietic progenitors, platelets, erythrocytes, and in mature myeloid cells, such as dendritic cells, neutrophils, and eosinophils.

Reference

Grishin A V, et al. (2001) Interaction between growth arrest-DNA damage protein 34 and Src kinase Lyn negatively regulates genotoxic apoptosis. Proc Natl Acad Sci U.S.A. 98 (18): 10172-7.

HAyashi T, et al. (1999) The AMPA receptor interacts with and signals through the protein tyrosine kinase Lyn. Nature. 397(6714): 72-6.

Ptasznik A, et al. (2004) Short interfering RNA (siRNA) targeting the Lyn kinase induces apoptosis in primary, and drug-resistant, BCR-ABL1(+) leukemia cells. Nat Med. 10(11): 1187-9.

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