

Datasheet for ABIN3134174
SYK Protein (AA 1-629) (Strep Tag)



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Overview

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| Quantity: | 250 µg |
| Target: | SYK |
| Protein Characteristics: | AA 1-629 |
| Origin: | Mouse |
| Source: | Cell-free protein synthesis (CFPS) |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This SYK protein is labelled with Strep Tag. |
| Application: | Western Blotting (WB), SDS-PAGE (SDS), ELISA |

Product Details

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| Brand: | AlIcE® |
| Sequence: | <p>MAGSAVDSAN HLTYFFGNIT REEAEDYLVQ GGMTDGLYLL RQSRNYLGGF ALSVAHNRKA</p> <p>HHYTIERELN GTYAISGGRA HASPADLCHY HSQEPDGLIC LLKKPFNRPP GVQPKTGPFE</p> <p>DLKENLIREY VKQTNWLQGG ALEQAISQK PQLEKLIATT AHEKMPWFHG NISRDESEQT</p> <p>VLIGSKTNGK FLIRARDNSG SYALCLLHEG KVLHYRIDRD KTGKLSIPEG KKFDTLWQLV</p> <p>EHYSYKPDGL LRVLTVPCQK IGAQMGHPGS PNAHPVTWSP GGIISRIKSY SFPKPGHKKP</p> <p>APPQGSRPES TVSFNPYEPT GGPWGPDRGL QREALPMDTE VYESPYADPE EIRPKEVYLD</p> <p>RSLLTLEDNE LGSGNFGTVK KGYQMKKV KTVAVKILKN EANDPALKDE LLAEANVMQQ</p> <p>LDNPYIVRMI GICEAESWML VMEMAELGPL NKYLQQNRHI KDKNIIELVH QVSMGMKYLE</p> <p>ESNFVHRDLA ARNVLLVTQH YAKISDFGLS KALRADENYY KAQTHGKWPV KWYAPECINY</p> <p>YKFSSKSDVW SFGVLMWEAF SYGQKPYRGM KGSEVTAMLE KGERMGCPAG CPREMYDLMN</p> <p>LCWTYDVENR PGFTAVELRL RNYYVDVVN</p> |

Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.

Characteristics:

Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified in one-step affinity chromatography
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein.

The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from *Nicotiana tabacum* c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.
- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Concentration:

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.
- The protein's absorbance will be measured against its specific reference buffer.
- We use the ExPASy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:

One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®).

Purity:

> 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).

Product Details

Grade: custom-made

Target Details

Target: SYK

Alternative Name: Syk ([SYK Products](#))

Background: Tyrosine-protein kinase SYK (EC 2.7.10.2) (Spleen tyrosine kinase),FUNCTION: Non-receptor tyrosine kinase which mediates signal transduction downstream of a variety of transmembrane receptors including classical immunoreceptors like the B-cell receptor (BCR). Regulates several biological processes including innate and adaptive immunity, cell adhesion, osteoclast maturation, platelet activation and vascular development (PubMed:33782605). Assembles into signaling complexes with activated receptors at the plasma membrane via interaction between its SH2 domains and the receptor tyrosine-phosphorylated ITAM domains. The association with the receptor can also be indirect and mediated by adapter proteins containing ITAM or partial hemITAM domains. The phosphorylation of the ITAM domains is generally mediated by SRC subfamily kinases upon engagement of the receptor. More rarely signal transduction via SYK could be ITAM-independent. Direct downstream effectors phosphorylated by SYK include DEPTOR, VAV1, PLCG1, PI-3-kinase, LCP2 and BLNK. Initially identified as essential in B-cell receptor (BCR) signaling, it is necessary for the maturation of B-cells most probably at the pro-B to pre-B transition. Activated upon BCR engagement, it phosphorylates and activates BLNK an adapter linking the activated BCR to downstream signaling adapters and effectors. It also phosphorylates and activates PLCG1 and the PKC signaling pathway. It also phosphorylates BTK and regulates its activity in B-cell antigen receptor (BCR)-coupled signaling. In addition to its function downstream of BCR also plays a role in T-cell receptor signaling. Plays also a crucial role in the innate immune response to fungal, bacterial and viral pathogens. It is for instance activated by the membrane lectin CLEC7A. Upon stimulation by fungal proteins, CLEC7A together with SYK activates immune cells inducing the production of ROS. Also activates the inflammasome and NF-kappa-B-mediated transcription of chemokines and cytokines in presence of pathogens. Regulates neutrophil degranulation and phagocytosis through activation of the MAPK signaling cascade. Required for the stimulation of neutrophil phagocytosis by IL15 (By similarity). Also mediates the activation of dendritic cells by cell necrosis stimuli. Also involved in mast cells activation. Involved in interleukin-3/IL3-mediated signaling pathway in basophils (PubMed:19098920). Also functions downstream of receptors mediating cell adhesion. Relays for instance, integrin-mediated neutrophils and macrophages activation and P-selectin receptor/SELPG-mediated recruitment of leukocytes to inflammatory loci. Also plays a role in non-immune processes. It is for instance involved in vascular

Target Details

development where it may regulate blood and lymphatic vascular separation. It is also required for osteoclast development and function. Functions in the activation of platelets by collagen, mediating PLCG2 phosphorylation and activation. May be coupled to the collagen receptor by the ITAM domain-containing FCER1G. Also activated by the membrane lectin CLEC1B that is required for activation of platelets by PDPN/podoplanin. Involved in platelet adhesion being activated by ITGB3 engaged by fibrinogen. Together with CEACAM20, enhances production of the cytokine CXCL8/IL-8 via the NFkB pathway and may thus have a role in the intestinal immune response (PubMed:26195794). {ECO:0000250|UniProtKB:P43405, ECO:0000269|PubMed:11672534, ECO:0000269|PubMed:11940607, ECO:0000269|PubMed:12522250, ECO:0000269|PubMed:15845454, ECO:0000269|PubMed:15956283, ECO:0000269|PubMed:16174766, ECO:0000269|PubMed:17086186, ECO:0000269|PubMed:17353363, ECO:0000269|PubMed:19098920, ECO:0000269|PubMed:19124738, ECO:0000269|PubMed:19219027, ECO:0000269|PubMed:19339971, ECO:0000269|PubMed:19797524, ECO:0000269|PubMed:26195794, ECO:0000269|PubMed:33782605, ECO:0000269|PubMed:9171347}.

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| Molecular Weight: | 71.4 kDa |
| UniProt: | P48025 |
| Pathways: | Fc-epsilon Receptor Signaling Pathway , Regulation of Leukocyte Mediated Immunity , Positive Regulation of Immune Effector Process , Thromboxane A2 Receptor Signaling , BCR Signaling |

Application Details

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| Application Notes: | In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though. |
| Comment: | <p>ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from <i>Nicotiana tabacum</i> c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.</p> <p>During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's</p> |

Application Details

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| | needed is the DNA that codes for the desired protein! |
| Restrictions: | For Research Use only |

Handling

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| Format: | Liquid |
| Buffer: | The buffer composition is at the discretion of the manufacturer. Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol Might differ depending on protein. |
| Handling Advice: | Avoid repeated freeze-thaw cycles. |
| Storage: | -80 °C |
| Storage Comment: | Store at -80°C. |
| Expiry Date: | 12 months |