

Recombinant human Tec protein ab105197

5 Images

Description

Product name	Recombinant human Tec protein
Biological activity	The Specific activity of ab105197 was determined to be 10 nmol/min/mg.
Purity	> 75 % Densitometry. Purity was determined to be >75% by densitometry. Affinity purified.
Expression system	Baculovirus infected Sf9 cells
Accession	<u>P42680</u>
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human
Predicted molecular weight	103 kDa including tags
Amino acids	1 to 631

Specifications

Our **Abpromise guarantee** covers the use of **ab105197** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	SDS-PAGE Western blot Functional Studies
Form	Liquid
Additional notes	<u>ab204877</u> (Poly (4:1 Glu, Tyr) peptide) can be utilized as a substrate for assessing kinase activity

Preparation and Storage

Stability and Storage	Shipped on dry ice. Upon delivery aliquot and store at -80°C. Avoid freeze / thaw cycles. pH: 7.50 Constituents: 0.307% Glutathione, 0.00174% PMSF, 0.00385% DTT, 0.79% Tris HCl, 0.00292% EDTA, 25% Glycerol (glycerin, glycerine), 0.87% Sodium chloride This product is an active protein and may elicit a biological response in vivo, handle with caution.
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General Info

Function

Non-receptor tyrosine kinase that contributes to signaling from many receptors and participates as a signal transducer in multiple downstream pathways, including regulation of the actin cytoskeleton. Plays a redundant role to ITK in regulation of the adaptive immune response. Regulates the development, function and differentiation of conventional T-cells and nonconventional NKT-cells. Required for TCR-dependent IL2 gene induction. Phosphorylates DOK1, one CD28-specific substrate, and contributes to CD28-signaling. Mediates signals that negatively regulate IL2RA expression induced by TCR cross-linking. Plays a redundant role to BTK in BCR-signaling for B-cell development and activation, especially by phosphorylating STAP1, a BCR-signaling protein. Required in mast cells for efficient cytokine production. Involved in both growth and differentiation mechanisms of myeloid cells through activation by the granulocyte colony-stimulating factor CSF3, a critical cytokine to promoting the growth, differentiation, and functional activation of myeloid cells. Participates in platelet signaling downstream of integrin activation. Cooperates with JAK2 through reciprocal phosphorylation to mediate cytokine-driven activation of FOS transcription. GRB10, a negative modifier of the FOS activation pathway, is another substrate of TEC. TEC is involved in G protein-coupled receptor- and integrin-mediated signalings in blood platelets. Plays a role in hepatocyte proliferation and liver regeneration and is involved in HGF-induced ERK signaling pathway. TEC regulates also FGF2 unconventional secretion (endoplasmic reticulum (ER)/Golgi-independent mechanism) under various physiological conditions through phosphorylation of FGF2 'Tyr-215'. May also be involved in the regulation of osteoclast differentiation.

Tissue specificity

Expressed in a wide range of cells, including hematopoietic cell lines like myeloid, B-, and T-cell lineages.

Sequence similarities

Belongs to the protein kinase superfamily. Tyr protein kinase family. TEC subfamily.
Contains 1 Btk-type zinc finger.
Contains 1 PH domain.
Contains 1 protein kinase domain.
Contains 1 SH2 domain.
Contains 1 SH3 domain.

Domain

The PH domain mediates the binding to inositol polyphosphate and phosphoinositides, leading to its targeting to the plasma membrane. It is extended in the BTK kinase family by a region designated the TH (Tec homology) domain, which consists of about 80 residues preceding the SH3 domain.
The SH3 domain is essential for its targeting to activated CD28 costimulatory molecule.

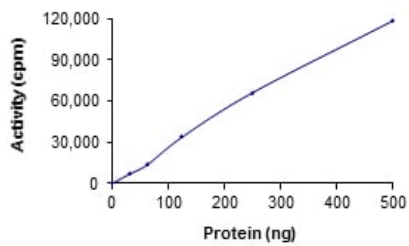
Post-translational modifications

Following B-cell or T-cell receptors engagement, translocates to the plasma membrane where it gets phosphorylated at Tyr-519. Undergoes also tyrosine phosphorylation during platelet activation.

Cellular localization

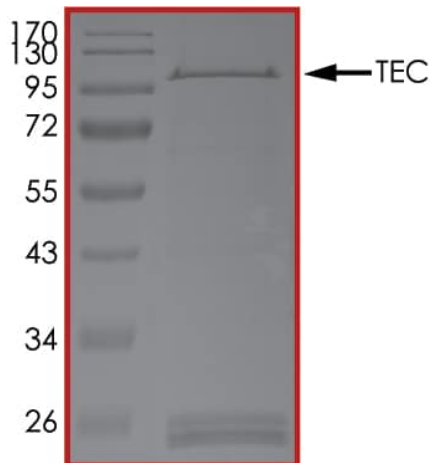
Cytoplasm. Cell membrane. Cytoplasm, cytoskeleton. Following B-cell or T-cell receptors activation by antigen, translocates to the plasma membrane through its PH domain. Thrombin and integrin engagement induces translocation of TEC to the cytoskeleton during platelet activation. In cardiac myocytes, assumes a diffuse intracellular localization under basal conditions but is recruited to striated structures upon various stimuli, including ATP (By similarity).

Images



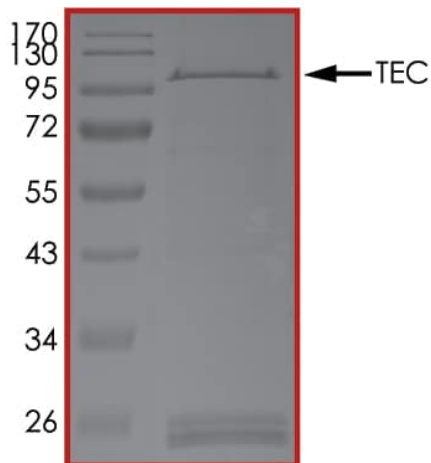
The specific activity of Tec (ab105197) was determined to be 8.5 nmol/min/mg as per activity assay protocol

Functional Studies - Recombinant human Tec protein (ab105197)



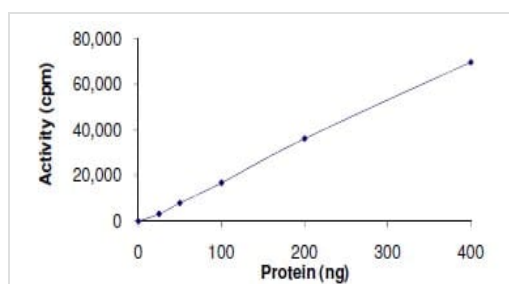
SDS PAGE analysis of ab105197

SDS-PAGE - Recombinant human Tec protein (ab105197)



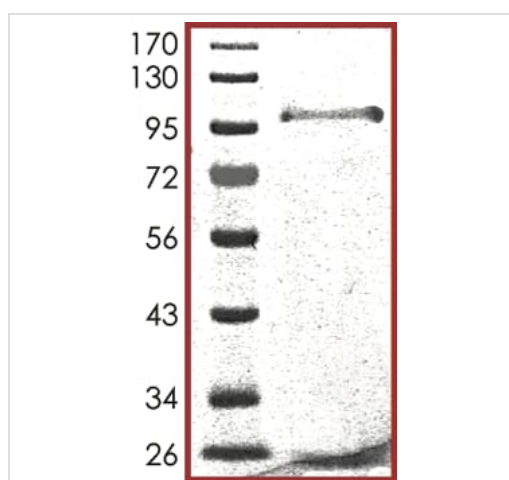
SDS PAGE analysis of ab105197

SDS-PAGE - Recombinant human Tec protein (ab105197)



The Specific activity of ab105197 was determined to be 10 nmol/min/mg.

Functional Studies - Recombinant human Tec protein (ab105197)



SDS-PAGE showing ab105197 at approximately 103kDa.

SDS-PAGE - Recombinant human Tec protein (ab105197)

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