

TXK (Human), Active

Recombinant protein expressed in Sf9 cells

Cat# CY-SPT19

Lot No. P012-1
5 µg 0.1 µg/µl

Background:

TXK or RLK is a member of the TEC family of non-receptor tyrosine kinases. TXK is expressed in T-cells and is an important component of signaling pathways downstream of lymphocyte antigen receptor. TXK is phosphorylated in response to T-cell receptor stimulation and can be activated by phosphorylation by Src family kinases. However, TXK is phosphorylated independent of PI-3K activity (1). Excessive TXK protein expression is seen in patients with Behcet's disease. Over production of TXK leads to increased Th1 cell function that is involved in the pathogenesis of Behcet's disease (2).

Product Description:

Recombinant human TXK (239-end) was expressed by baculovirus in Sf9 cells using an N-terminal GST tag. The gene accession number is NM_003328.

Gene Aliases:

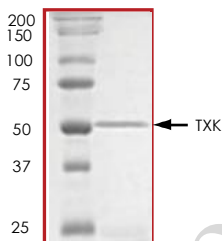
RLK; TKL; BTKL; PTK4; PSCTK5; MGC22473

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 53kDa.



Storage:

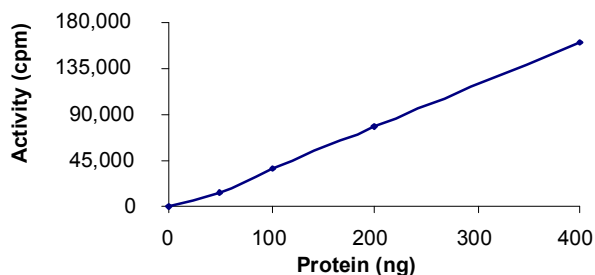
Store product at -70 °C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

Stability:

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

**Specific Activity:**

The specific activity was determined to be 18 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:

Myelin basic protein (MBP) diluted in distilled H₂O to a final concentration of 1mg/ml.

5 X Kinase Assay Buffer:

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

References:

- 1.Czar, M J. et al: Biochemical and genetic analyses of the Tec kinases Itk and Rlk/Txk. Biochem Soc Trans. 2001 Nov;29(Pt 6):863-7.
- 2.Suzuki, N. et al: Skewed Th1 responses caused by excessive expression of Txk, a member of the Tec family of tyrosine kinases, in patients with Behcet's disease. Clin Med Res. 2006 Jun;4(2):147-51.

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