

TCL1A Protein, Human, Recombinant (His)

General Information

Synonyms:	TCL1;T-cell leukemia/lymphoma 1A
Protein Construction:	A DNA sequence encoding the human TCL1A (P56279) (Ala 2-Asp 114) was expressed, with a polyhistidine tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	P56279
Molecular Weight:	15.2 kDa (predicted); 22 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 88 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.5. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

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 recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:
In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

T-cell leukemia/lymphoma protein 1A (abbreviated for TCL1A) is a member of the TCL1 family. TCL1 protooncogene is expressed in CD3-CD4-CD8-precursor T cells and is extinguished at the CD4+CD8+stage of thymocyte development. In B cells, TCL1 is first expressed in pro-B cells and remains high in naive mantle zone B cells of peripheral lymphoid tissues. The TCL1 protooncogene is overexpressed in many mature B cell lymphomas, especially from AIDS patients. It has been demonstrated that TCL1 is a powerful oncogene that, when

overexpressed in both B and T cells, predominantly yields mature B cell lymphomas. All TCL1 isoforms bind to the Akt pleckstrin homology domain. Both in vitro and in vivo TCL1 increases Akt kinase activity and as a consequence enhances substrate phosphorylation. In vivo, TCL1 stabilizes the mitochondrial transmembrane potential and enhances cell proliferation and survival. It has been shown that TCL1 is a novel Akt kinase coactivator, which promotes Akt-induced cell survival and proliferation.

Reference

Jarmo Laine, et al. (2000) The Protooncogene TCL1 Is an Akt Kinase Coactivator. *Molecular Cell*. 6(2): 395-407.

Virgilio L, et al. (1994) Identification of the TCL1 gene involved in T-cell malignancies. *PNAS* December. 91(26): 12530-4.

Hoyer KK, et al. (2002) Dysregulated TCL1 promotes multiple classes of mature B cell lymphoma. *Proc Natl Acad Sci U S A*. 99(22): 14392-7.

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