

# Anti-Human TCL1 (I-2I)

|  |            |   |   |
|--|------------|---|---|
|  | <b>REF</b> |  |  |
| APC  | TCLIA-100T | 100 test  | <b>RUO</b>  |

## 1. PRODUCT DESCRIPTION

**Clone:** I-2I

**Isotype:** Mouse BALB/c IgG2b, k

**Tested application:** flow cytometry

**Immunogen:** The TCL1 monoclonal antibody derives from outer  $\alpha$ -loop region of TCL1 peptide.

**Species reactivity:** Human

**Storage instruction:** store in the dark at 2-8 °C

**Storage buffer:** aqueous buffered solution containing protein stabilizer and 0.09% sodium azide (NaN<sub>3</sub>).

**Recommended usage:** Immunostep's anti-human T cell leukemia/lymphoma 1 (TCL1) antibody, clone I-2I, is a monoclonal antibody designed for the identification and enumeration of TCL1 protein, a 14 kDa proto-oncogene product involved in the intracellular regulation of T cell signaling. This antibody is intended for use in flow cytometry to detect TCL1 expression in various cell types, including immature cortical thymocytes, activated peripheral T cells, pro-B cells, and naive mantle zone B cells of peripheral lymphoid tissues.

This reagent is effective for direct immunofluorescence staining of human tissue for flow cytometric analysis using 1 test for 10<sup>6</sup> cells. The I-2I monoclonal antibody specifically binds to TCL1, also known as T-cell leukemia/lymphoma protein 1A (TCL1A), and is effective for multicolor staining and flow cytometric analyses to identify and characterize TCL1+ cells in heterogeneous cell populations.

**Presentation:** liquid

**Source:** Supernatant proceeding from an in vitro cell culture of a cell hybridoma.

**Purification:** Affinity chromatography.

## 2. ANTIGEN DETAILS

**Large description:** The T cell leukemia/lymphoma 1 (TCL1) protein is a 14 kDa proto-oncogene product that plays a significant role in the intracellular regulation of T cell signaling 1. The TCL1 gene is located at the 14q32.1 chromosome breakpoint region and is implicated in T-cell prolymphocytic leukemia (T-PLL) due to chromosomal rearrangements such as inversions or reciprocal translocations 2. These rearrangements result in the overexpression of TCL1 by juxtaposition to the T-cell receptor promoter/enhancer elements 3.

TCL1 binds to the pleckstrin homology domain of Akt (protein kinase B) family proteins, facilitating Akt dimerization and activity. This interaction enhances the serine/threonine phosphorylation of major Akt signaling substrates, including the I $\kappa$ k complex, mTOR, BAD, p70S6 kinase, FOXO transcription factors, and GSK3 $\beta$ . These substrates are critical regulators of cellular differentiation, growth, survival, and metabolism.

In addition to its tumorigenic role in T-PLL, TCL1 is normally expressed in the CD3-CD4-CD8-subset of thymic precursors in the T cell lineage, the plasmacytoid subset of dendritic cells, stimulated (but not resting) mature T cells, and B cells up to the germinal center stage of maturation. TCL1 is inappropriately expressed by chromosome rearrangements that lead to pre-malignant clonal T cell expansions and mature T cell tumors. Overexpression of the TCL1 gene in humans has been implicated in the development of mature T cell leukemia, where chromosomal rearrangements bring the TCL1 gene in close proximity to the T-cell antigen receptor (TCR)-alpha or TCR-beta regulatory elements.

**Other Names:** T-cell leukemia/lymphoma protein 1A (TCL1A), protein p14 TCL1, oncogene TCL-1

**Gene ID:** 8115

**Molecular weight:** Approximately 14 kDa

Please, refer to [www.immunostep.com](http://www.immunostep.com) technical support for more information.

## 3. WARRANTY

Warranted only to conform to the quantity and contents stated on the label or in the product labelling at the time of delivery to the customer. Immunostep disclaims hereby other warranties. Immunostep's sole liability is limited to either the replacement of the products or refund of the purchase price.






## 4. REFERENCES

1. Sun S, Fang W. Current understandings on T-cell prolymphocytic leukemia and its association with TCL1 proto-oncogene. *Biomed Pharmacother.* 2020 Jun;126:110107. doi: 10.1016/j.biopha.2020.110107. Epub 2020 Apr 1. PMID: 32247279. Laine J, et al. TCL1 is an Akt kinase coactivator. *Mol Cell.* 2000;6(2):395-407.
2. Herling M, Patel KA, Khalilii J, Schlette E, Kobayashi R, Medeiros LJ, Jones D. TCL1 shows a regulated expression pattern in chronic lymphocytic leukemia that correlates with molecular subtypes and proliferative state. *Leukemia.* 2006 Feb;20(2):280-5. doi: 10.1038/sj.leu.2404017. PMID: 16341048.
3. Pekarsky Y, Hallas C, Croce CM. The role of TCL1 in human T-cell leukemia. *Oncogene.* 2001 Sep 10;20(40):5638-43. doi: 10.1038/sj.onc.1204596. PMID: 11607815

For research use only, not for diagnostic procedures.

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## 5. EXPLANATION OF SYMBOLS

|   |                                  |
|---|----------------------------------|
|    | Form                             |
| <b>REF</b>  | Catalog reference                |
|    | Contains sufficient for <n> test |
|    | Regulatory Status                |
|    | Quantity per test                |
| <b>RUO</b>  | Research Use Only                |
| <b>[A]</b>  | Concentration                    |
|  | Manufacturer                     |

## 6. MANUFACTURED BY:



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