

T & B CELL SCREEN
12420

QUICK REFERENCE

On August 31, 2021, Allina Health Laboratory will implement a reconfigured T & B cell screen that includes a novel T cell antibody (TRBC1) for the detection of phenotypic T cell clones by flow cytometry. TRBC1 is a monoclonal antibody (JOVI-1) specific to one of two mutually exclusive T-cell receptor (TCR) β chain constant regions, providing a simple and sensitive way to detect clonal T cells for any immunophenotypically distinct T cell subset among CD3+/TCR $\alpha\beta$ + T cells (Shi et al., 2020).

DETAILS

The modified T cell screen tube (T1), which is currently ordered as part of the T & B cell screen panel, will be reconfigured from two 8-color tubes to a single 10-color tube on a new flow cytometer (Lyric). This change improves resolution of T and NK cells within a complex mixture of cells and improves efficiency. The reconfigured assay will contain the novel marker TRBC1 along with TCR $\gamma\delta$ for a net gain of 2 CPT charges per panel.

The result report for the test will be enhanced by assay-specific quality metrics, including a calculated Limit of Detection (LOD) based on the total number of analyzed events. Abnormal specimen reports will include the relative frequency (percentage) and immunophenotypic summary of the aberrant cohort. Normal specimen reports will include relative frequencies of B, T, and NK lymphocytes along with a calculated CD4:CD8 ratio for T cells. Percent positivity for individual markers and peripheral blood reference ranges for T cells will no longer be reported due to the qualitative nature of the updated test. If quantitative results are required for peripheral blood, consider ordering Quantitative Lymphocyte Subsets (LAB14271).

Note that TRBC1 will identify clonal populations of TCR $\alpha\beta$ cytotoxic and helper T cells only. Clonality of TCR $\gamma\delta$ T cells and NK cells cannot be confirmed by this assay, although the latter represent a minority (~10%) of clonal T-cell populations detected in routine blood specimens.

Panel	Tubes	Markers	CPT Codes*
T & B cell screen	Tubes B1, T1	CD2, CD3, CD4, CD5, CD7, CD8, CD10, CD19, CD20, CD45, CD56, Kappa, Lambda, TCR $\gamma\delta$, TRBC1	88184 x 1 88185 x 14

*May vary based on immunophenotype of cells in the specimen

References

Shi, M., Jevremovic, D., Otteson, G. E., Timm, M. M., Olteanu, H., & Horna, P. (2020). Single Antibody Detection of T-Cell Receptor $\alpha\beta$ Clonality by Flow Cytometry Rapidly Identifies Mature T-Cell Neoplasms and Monotypic Small CD8-Positive Subsets of Uncertain Significance. *Cytometry. Part B, Clinical cytometry*, 98(1), 99–107. [doi: 10.1002/cyto.b.21782](https://doi.org/10.1002/cyto.b.21782)

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