

ORISE Beryllium Lab Guide to Results

NORMAL	The cells display a normal response to beryllium sulfate
ABNORMAL	Two or more Beryllium concentrations are greater than stimulation index (SI) reference range.
BORDERLINE	One of the Beryllium concentrations is greater than stimulation index (SI) reference range.
UNINTERPRETABLE Statistical Variation	Data from BeLPT is not statistically valid due to high variability of cell growth in controls or beryllium concentrations.
UNINTERPRETABLE Cell Death	Due to increased cell killing in Beryllium test wells.
UNINTERPRETABLE Poor Cell Growth	Due to poor cell growth in control wells.
UNINTERPRETABLE Over proliferation of Cells	Due to over proliferation (OP) of cells in the unstimulated control wells. Recommend first OP request a 4 & 6 day culture. Second OP, request a 4- & 6-day culture in a different serum Note: Over proliferation of cells may hide abnormal or borderline.
UNINTERPRETABLE Poor Mitogen	Due to poor response to positive controls (mitogens).
UNACCEPTABLE Sample Low cell count	Due to insufficient number of white blood cells. Customer notified day of arrival of sample. Recommend repeat BeLPT with 40 ml blood.
UNACCEPTABLE Sample ➤ 48 hours	Due to wrong draw date or shipping issue. Customer notified day of arrival of sample. Recommend repeat BeLPT.
UNACCEPTABLE Sample QNS	Quantity Not Sufficient. Received less than 30 ml of blood. Customer notified day of arrival of sample. Recommend repeat Be LPT with correct amount of blood.
UNACCEPTABLE Sample Unable to Resolve Labeling Errors	Examples of unresolved labeling errors: Unlabeled tubes; wrong patient collected; incorrect identifiers and/or other errors deemed unacceptable

Chronic beryllium disease (CBD), a chronic disorder mainly affecting the lungs, is found in a small percentage of persons exposed to beryllium dust. In these individuals, exposure to beryllium elicits a delayed-type hypersensitivity resulting in granulomas. The blood beryllium lymphocyte proliferation test (BeLPT) is an in-vitro test, which measures the response of an individual's lymphocytes to the presence of beryllium sulfate. An abnormal BeLPT indicates sensitivity to beryllium but alone is not diagnostic for chronic beryllium disease. However, individuals that are sensitive to beryllium are at a greater risk for developing CBD. The present lymphocyte proliferation test is the best non-invasive screening method available to detect individuals at risk.