

DIAGNOSTIC IMMUNOLOGY LAB (DIL) SPECIMEN COLLECTION GUIDE

Use this specimen collection guide when the following tests are ordered:

1. **CD107a Mobilization (NK Cell Degranulation)**, Test# 2905400
2. **T Cell Degranulation (CD107a)**, Test# 8578393
3. **Antigen Stimulation**, Test# 2903000
4. **Mitogen Stimulation**, Test# 2901000
5. **NK Function**, Test# 2900800
6. **XIAP Function**, Test# LAB00538

Tests above require a specific lymphocyte count instead of certain sample volume. A patient's absolute lymphocyte count (ALC) is representative of the number of lymphocytes in a certain volume of blood and is usually part of a complete blood count with differential (CBC with Diff).

Specimen Requirements

1. Samples are not accepted on weekends.
2. Determine the appropriate specimen volume using the ALC chart below. Identify the patient's ALC and collect the corresponding volume of sodium heparin whole blood.
 - ALC's are generally expressed as a number with units of K/mcL (or thousands of cells per microliter of blood).
 - Unit equivalencies:
 - i. cmm (cubic millimeters) = mm³ = μL (microliters) = mcL (microliters)
 - ii. thousands/ μL = x10³/cmm = x10³/ μL = K/cmm = K/ μL = K/mcL
3. **Collect the recommended volume for EACH TEST ORDERED.**
 - For ALC values below 200 cells/mcL, consider deferring specimen collection until lymphocyte counts increase, if clinically appropriate.
 - For ALC values above 1000 cells/mcL, collect 5 mL of sodium heparin whole blood for each test ordered. Drawing less than 5 mL per test is not recommended.
 - Example:
A patient has an ALC of 0.56 K/mcL, and the clinician orders NK Function and Mitogen Stimulation testing. Based on the ALC chart, the recommended specimen volume for each test is 7.5–9 mL. To reduce the risk of sample rejection due to insufficient cellularity, use the higher recommended volume. Therefore, collect 9 mL x 2 = 18 mL of sodium heparin whole blood to support both tests.

Specimen Volume

ALC (K/mcL)	ALC (cell/mcL)	Required volume of Sodium heparin (mL)
≥1.0	>1000	5.0
0.90	900	5.5
0.80	800	6.0
0.70	700	6.5
0.60	600	7.5
0.50	500	9.0
0.40	400	11.0
0.30	300	15.0
0.20*	200*	25.0
0.10*	100*	45.0
<0.10*	<100*	50.0

*As indicated, defer specimen collection until lymphocyte counts increase, if clinically appropriate.