Test Definition: TCP

T-Cell Subsets, Naive, Memory and Activated

Reporting Title: T Cell Phenotyping, Advanced
Performing Location: Rochester

Specimen Requirements:

Send specimen Monday through Thursday only. Specimen must arrive within 24 hours of draw and by 10 a.m. on Friday. Draw and package specimen as close to shipping time as possible. Ship specimen priority overnight.

Container/Tube: Lavender top (EDTA)
Specimen Volume: 3 mL
Collection Instructions: Send specimen in original tube. Do not aliquot.
Additional Information:
1. Ordering physician's name and phone number are required.
2. For serial monitoring, we recommend that specimen draws be performed at the same time of day.

Specimen Type	Temperature	Time
Whole Blood EDTA	Ambient	72 hours

Result Codes:

Result ID	Reporting Name	Type	Unit	LOINC®
29151	%CD4+CD45RA+ naive T cells	Numeric	% CD4	
29152	%CD4+CD62L+CD27+ naive T cells	Numeric	% CD4	
29153	%CD8+CD45RA+ naive T cells	Numeric	% CD8	
29154	%CD8+CD62L+CD27+naive T cells	Numeric	% CD8	
29155	%CD4+CD45RO+ memory T cells	Numeric	% CD4	
29156	%CD4+CD62L+CD27+CD45RO+ (Tcm)	Numeric	% CD4	
29157	%CD4+CD62L-CD27-CD45RO+ (Tem)	Numeric	% CD4	
29158	%CD8+CD45RO+ memory T cells	Numeric	% CD8	
29159	%CD8+CD62L+CD27+CD45RO+ (Tcm)	Numeric	% CD8	
29160	%CD8+CD62L-CD27-CD45RO+ (Tem)	Numeric	% CD8	
29161	%Activated CD4 T cells (4+CD25+)	Numeric	% CD4	
29162	%CD4+HLA DR+CD28+ T cells	Numeric	% CD4	
29163	%CD8+HLA DR+CD28+ T cells	Numeric	% CD8	
29164	CD4+CD45RA+ naive T cells	Alphanumeric	cells/mcL	
29165	CD4+CD62L+CD27+ naive T cells	Alphanumeric	cells/mcL	

Result ID	Reporting Name	Type	Unit	LOINC®
29166	CD8+CD45RA+ naive T cells	Alphanumeric	cells/mcL	
29167	CD8+CD62L+CD27+naive T cells	Alphanumeric	cells/mcL	
29168	CD4+CD45RO+ memory T cells	Alphanumeric	cells/mcL	
29169	CD4+CD62L+CD27+CD45RO+ (Tcm)	Alphanumeric	cells/mcL	
29170	CD4+CD62L-CD27-CD45RO+ (Tem)	Alphanumeric	cells/mcL	
29171	CD8+CD45RO+ memory T cells	Alphanumeric	cells/mcL	
29172	CD8+CD62L+CD27+CD45RO+ (Tcm)	Alphanumeric	cells/mcL	
29173	CD8+CD62L-CD27- CD45RO+ (Tem)	Alphanumeric	cells/mcL	
29174	Activated CD4 T cells (4+CD25+)	Alphanumeric	cells/mcL	
29175	CD4+HLA DR+CD28+ T cells	Alphanumeric	cells/mcL	
29176	CD8+HLA DR+CD28+ T cells	Alphanumeric	cells/mcL	
29178	Interpretation **Also used by tests: CD4RT**	Alphanumeric		

Components:

Test ID	Reporting Name	CPT Units	CPT Code	Always Performed	Orderable Separately
Billing only	T Cell, total count	1	86359		
Billing only	absolute CD4 count	1	86361		
Billing only	Flow cytometry, first marker	1	88184		

Reference Values:

<2 years: not established
2-18 years:
CD4+CD45RA+ naive T cells
21-75% of CD4 T cells
135-893 cells/mcL
CD4+CD62L+CD27+ naive T cells
15-71% of CD4 T cells
54-830 cells/mcL
CD8+CD45RA+ naive T cells
23-88% of CD8 T cells
83-653 cells/mcL
CD8+CD62L+CD27+ naive T cells
8-81% of CD8 T cells

26-534 cells/mcL
CD4+CD45RO+ memory T cells
11-44% of CD4 T cells
56-411 cells/mcL
CD4+CD62L+CD27+CD45RO+ (Tcm)
5-28% of CD4 T cells
23-238 cells/mcL
CD4+CD62L-CD27-CD45RO+ (Tem)
0.3-4% of CD4 T cells
2-27 cells/mcL
CD8+CD45RO+ memory T cells
2-26% of CD8 T cells
10-142 cells/mcL
CD8+CD62L+CD27+CD45RO+ (Tcm)
0-14% of CD8 T cells
0-79 cells/mcL
CD8+CD62L-CD27-CD45RO+ (Tem)
0-3% of CD8 T cells
0-15 cells/mcL
Activated CD4 T cells (4+CD25+)
5-28% of CD4 T cells
35-250 cells/mcL
CD4+HLA DR+CD28+ T cells
2-16% of CD4 T cells
12-89 cells/mcL
CD8+HLA DR+CD28+ T cells
0.7-20% of CD8 T cells
3-114 cells/mcL
19-84 years:
CD4+CD45RA+ naive T cells
3-59% of CD4 T cells
27-833 cells/mcL
CD4+CD62L+CD27+ naive T cells
2-58% of CD4 T cells
11-824 cells/mcL
CD8+CD45RA+ naive T cells
6-84% of CD8 T cells
19-508 cells/mcL
CD8+CD62L+CD27+ naive T cells
19-50 years:
2-78% of CD8 T cells
5-475 cells/mcL
51-69 years:
2-49% of CD8 T cells
5-198 cells/mcL
70-84 years:
2-29% of CD8 T cells
5-198 cells/mcL
CD4+CD45RO+ memory T cells
15-69% of CD4 T cells
167-670 cells/mcL

CD4+CD62L+CD27+CD45RO+ (Tcm)
6-47% of CD4 T cells
58-413 cells/mcL
CD4+CD62L-CD27-CD45RO+ (Tem)
0.7-12% of CD4 T cells
7-99 cells/mcL
CD8+CD45RO+ memory T cells
4-49% of CD8 T cells
15-275 cells/mcL
CD8+CD62L+CD27+CD45RO+ (Tcm)
1-18% of CD8 T cells
6-135 cells/mcL
CD8+CD62L-CD27-CD45RO+ (Tem)
0-6% of CD8 T cells
0-36 cells/mcL
Activated CD4 T cells (4+CD25+)
4-26% of CD4 T cells
30-207 cells/mcL
CD4+HLA DR+CD28+ T cells
2-13% of CD4 T cells
17-122 cells/mcL
CD8+HLA DR+CD28+ T cells
3-32% of CD8 T cells
13-155 cells/mcL
>84 years: not established

The reference values were established for healthy adult and pediatric populations. The 95% confidence intervals for these subsets were determined by quantile regression and bootstrapping methods. The reference values for CD3, CD4, and CD8 T cells are derived from the TCD4 assay (TCD4/84348 CD4 Count for Immune Monitoring, Blood) which is linked experimentally to this assay. (Unpublished Mayo information)