Test Definition: CMVC8

Cytomegalovirus (CMV) CD8 T-Cell Immune Competence, Quantitative Assessment by Flow Cytometry

Reporting Title: CMV CD8 T-Cell QN by Flow Cytometry
Performing Location: Rochester

Specimen Requirements:

Send specimen Monday through Thursday only. Specimen should arrive within 24 hours of draw. Draw and package specimen as close to shipping time as possible.

Container/Tube: Green top (sodium heparin)
Specimen Volume: 20 mL
Collection Instructions: Ship specimen overnight in an Ambient Mailer-Critical Specimens Only (Supply T668).
Additional Information:
1. Ordering physician name and phone number are required.
2. Patient must be CMV-seropositive and have 1 or more of the 5 major histocompatibility complex (MHC) alleles: HLA A1, A2, B7, B8, or B35. (Suggested assay for HLA typing is SSO1/84472 HLA/SSO Class I Molecular Phenotype, Blood.)
3. For serial monitoring, we recommend that specimen draws be performed at the same time of day.
Forms: Quantitative CMV Immune Competence Assay Patient Information Sheet (Supply T592) in Special Instructions.

Specimen Type	Temperature	Time
WB Sodium Heparin	Ambient	72 hours

Result Codes:

Result ID	Reporting Name	Type	Unit	LOINC®
28143	Total CD3 T cells	Alphanumeric	cells	8122-4
28144	Total CD8 T cells	Alphanumeric	cells	8137-2
28145	CMV CD8 T cells A1	Alphanumeric	cells	In Process
28146	CMV CD8 T cells A2	Alphanumeric	cells	In Process
28147	CMV CD8 T cells B7	Alphanumeric	cells	In Process
28148	CMV CD8 T cells B8	Alphanumeric	cells	In Process
28149	CMV CD8 T cells B35	Alphanumeric	cells	In Process
28150	Total CMV CD8 T cells	Alphanumeric	cells	In Process
28151	CMV CD8 T cells IFN-g A1	Alphanumeric	cells	In Process
28152	CMV CD8 T cells IFN-g A2	Alphanumeric	cells	In Process
28153	CMV CD8 T cells IFN-g B7	Alphanumeric	cells	In Process
28154	CMV CD8 T cells IFN-g B8	Alphanumeric	cells	In Process

Result ID	Reporting Name	Type	Unit	LOINC®
28155	CMV CD8 T cells IFN-g B35	Alphanumeric	cells	In Process
28156	Total CMV CD8 T cells IFN-g	Alphanumeric	cells	In Process
28157	CMV CD8 T cells CD107 A1	Alphanumeric	cells	In Process
28158	CMV CD8 T cells CD107 A2	Alphanumeric	cells	In Process
28159	CMV CD8 T cells CD107 B7	Alphanumeric	cells	In Process
28160	CMV CD8 T cells CD107 B8	Alphanumeric	cells	In Process
28161	CMV CD8 T cells CD107 B35	Alphanumeric	cells	In Process
28162	Total CMV CD8 T cells CD107a/b	Alphanumeric	cells	In Process
30693	IFN-gamma expression	Alphanumeric	% CD8 T-Cells	In Process
30694	CD107a/b expression	Alphanumeric	% CD8 T-Cells	In Process
28163	Interpretation	Alphanumeric		69052-9

Components:

Test ID	Reporting Name	CPT Units	CPT Code	Always Performed	Orderable Separately
Billing only	Each Addtl Marker	2	88185		
Billing only	Flw Cytomtry First Marker	1	88184		

Reference Values:

Total CD3 T cells: 884-5,830 x 10(3)/mL
Total CD8 T cells: 168-1,847 x 10(3)/mL
Total CMV CD8 T cells: 0-115 x 10(3)/mL

The adult reference values were determined for healthy adult controls ages 20 to 80 years (n=94), for HLA A1, A2, B7, B8, and B35 alleles.

Reference values for CMV-specific T cells that are functional (interferon-gamma+, IFN-g+) and have cytotoxic activity (CD107a and CD107b expression, CD107 a/b+):
Total CMV CD8 T-cells IFN-g: 0.028-52.200 x 10(3)/mL
Total CMV CD8 T-cells CD107a/b: 0.252-50.760 x 10(3)/mL

The 95% confidence interval reference values were determined from 102 healthy adult donors:
IFN-gamma expression (as % CD8 T cells): 10.3-56.0%
CD107a/b expression (as % CD8 T cells): 8.5-49.1%

The reference values were developed for each of the following 4 MHC class I alleles: A1, A2, B7, and B8 (n=45). We were unable to develop ranges for the B35 allele due to a lack of matching donors. The data is expressed as the

absolute number of CMV-specific CD8 T cells that are IFN-gamma+ or CD107a/b+.