Lab Dept: Flow and Immunology

Test Name: B-CELL PHENOTYPE PROFILE

General Information

Lab Order Codes:	BCPP
Synonyms:	B cell function, B cell immunodeficiency, B cell subset, B cell function, Common Variable Immunodeficiency, T and B cell Flow Cytometry, Helper Suppressor Ratio, Humeral Immunodeficiency, Immune Assessment, Immunodeficiency, Lymphocyte Surface Markers, Suppressor Helper Ratio, Variable Immunodeficiency
CPT Codes:	B-cell Phenotyping Screen for Immunodeficiency and Immune Competence Assessment, Blood 88184 - Flow cytometry, cell surface, cytoplasmic, or nuclear marker, technical component only; first marker 88185 x7 - Flow cytometry, cell surface, cytoplasmic, or nuclear marker, technical component only; each additional marker T and B Cell Quantitation by Flow 86355 - B cells, total count 86357 - Natural killer (NK) cells, total count 86359 - T cells; total count 86360 - T cells; absolute CD4 and CD8 count, including ratio Common Variable Immunodeficiency Confirmation Flow Panel 88184 - Flow cytometry, cell surface, cytoplasmic, or nuclear marker, technical component only; first marker (if appropriate) 88185 x2 - Flow cytometry, cell surface, cytoplasmic, or nuclear marker, technical component only; each additional marker (if appropriate)
Test Includes:	If immune assessment B-cell subsets test is abnormal, then common variable immunodeficiency (CVID) confirmation by flow panel will be performed at an additional charge.

Logistics

Test Indications:	Screening for common variable immunodeficiency (CVID) and hyper-IgM syndromes. Assessing B-cell subset reconstitution after stem cell or bone marrow transplant. Assessing B-cell response to B-cell depleting immunotherapy. Identifying defects in transmembrane activator and calcium modulator and cylophilin ligand (CAML) interactor (TACI) and B-cell activating factor receptor (BAFF-R) in patients presenting with clinical symptoms and other laboratory features consistent with CVID.
Lab Testing Sections:	Flow Cytometry – Sendouts

Referred to:	Mayo Medical Laboratory (MML Test: IABCS)
Phone Numbers:	MIN Lab: 612-813-6711 STP Lab: 651-220-6560
Test Availability:	Daily, 24 hours
Turnaround Time:	Performed Monday – Friday
Special Instructions:	**Restricted Draw Times**: Must be collected Monday – Thurs. There is no weekend processing. Specimens must be packaged and shipped as close to shipping time as possible. Two separate EDTA specimens are required. See Draw Volume

Specimen	Whole blood
Specimen Type:	Blood
Container:	2 - EDTA (purple top) tubes
Draw Volume:	**NOTE: Two separate EDTA specimens are required.** **For patients <14 years:** 8 mL (Minimum: 4 mL) blood Two EDTA tubes: Each filled with 4 mL blood (OR when using minimum volumes 1 mL in the first tube and 3 mL in the second tube). Mix by gentle inversion and send immediately to the laboratory. **For patients >14 years:** 14 mL (Minimum: 6 mL) blood Two EDTA tubes: Fill the first tube with 4 mL (Minimum: 1 mL) blood and the second with 10 mL (Minimum: 5 mL) blood. Mix by gentle inversion and send immediately to the laboratory.
Processed Volume:	Same as Draw Volumes
Collection:	Routine venipuncture
Special Processing:	Lab Staff: DO NOT centrifuge. Specimens must remain in original collection containers. **NOTE:** One EDTA tube with 4 mL (Minimum: 1 mL) MUST be stored at **Room Temperature**. The other tube with 4 or 10 mL (Minimum: 3 or 5 mL) blood MUST be stored **Refrigerated**. **Required information with specimen:** Date of draw, ordering physician name and phone number.

Patient Preparation:	None
Sample Rejection:	Improperly filled tubes; incomplete or mislabeled specimen; improper collection or handling of specimen resulting in poor cell viability or insufficient quantity; gross hemolysis; specimen centrifuged or aliquoted (not in original vacutainer)

Interpretive

Reference Range:	The appropriate age-related reference values will be provided on the report.
Critical Values:	N/A
Limitations:	This assay and the reference range reported are based on analysis of B cells derived from the mononuclear cell fraction of peripheral whole blood and , therefore, results may not be identical to those performed on whole blood. This test is a screening test and further analyses will be required to complete a diagnostic workup for common variable immunodeficiency (CVID) and hyper IgM. This test is not indicated for the evaluation of lymphoproliferative disorders. Timing and consistency in timing of blood collection is critical when serially monitoring patients for lymphocyte subsets.
Methodology:	T- and B-Cell Quantitation: Flow cytometry Immune Assessment B Cell Subsets: Flourescent Flow Cytometry
References:	Mayo Medical Laboratories Web Page (June 2014)