Lab Dept:	**Chemistry**
Test Name:	**COBALAMIN, METHIONINE, METHYLMALONIC ACID PATHWAYS, PLASMA**

General Information

Lab Order Codes:	CMMPP
Synonyms:	Cobalamin deficiency; Hypermethioninemia; Combined Methylmalonic acidemia and homocystinuria;
CPT Codes:	83090 – Assay of Homocysteine 83918 – Organic Acids; total, quantitative 82136 – Amino Acids, 2 to 5 amino acids, quantitative
Test Includes:	Quantitative results for total homocysteine, methylmalonic acid, 2-methylcitric acid, methionine, total cysteine, cystathionine with interpretative report.

Logistics

Test indications:	Screening and monitoring patients suspected of or confirmed with an inherited disorder of methionine, cobalamin, or propionate metabolism using plasma specimens Evaluating individuals with suspected deficiency of vitamin B12
Lab Testing Sections:	Chemistry - Sendouts
Referred to:	Mayo Medical Laboratories (Test Code: CMMPP)
Phone Numbers:	MIN Lab: 612-813-6280 STP Lab: 651-220-6550
Test Availability:	Daily, 24 hours (performed by reference lab Monday through Friday)
Turnaround Time:	3-6 days
Special Instructions:	Specimen must be immediately placed on wet ice after collection

Specimen

Specimen Type:	Blood

Container:	Lavender (EDTA) tube Alternate: Green (sodium or lithium heparin) tube
Draw Volume:	3 mL (Minimum 1 mL) blood
Processed Volume:	1 mL (Minimum: 0.3 mL) plasma
Collection:	Routine blood collection. **Specimen must be immediately placed on wet ice**.
Special Processing:	Lab Staff: Specimen should arrive in the lab on ice. Centrifuge and aliquot plasma into plastic vial within 4 hours of collection. If blood cannot be placed on wet ice immediately, centrifuge and aliquot plasma into plastic vial within 1 hour of collection. A refrigerated centrifuge is not required if the above time restrictions are met. Store and ship refrigerated. Forward promptly. Plasma stable refrigerated (preferred) or ambient for 28 days. Plasma stable frozen for 309 days.
Patient Preparation:	N/A
Sample Rejection:	Improper tube; mislabeled or unlabeled specimens; specimens not meeting temperature and processing requirements.

Interpretive

Reference Range:	See Reference lab test catalog entry for code CMMPP
Critical Values:	N/A
Limitations:	An interpretive report will be provided. When abnormal results are detected, a detailed interpretation is given, including an overview of the results and of their significance, a correlation to available clinical information, elements of differential diagnosis, recommendations for additional biochemical testing, and in vitro confirmatory studies (complementation studies, molecular analysis), and a phone number to reach one of the laboratory directors in case the referring physician has additional questions. Abnormal results are not sufficient to conclusively establish a diagnosis of a particular disease. To verify a preliminary diagnosis based on the analysis, independent biochemical (e.g., complementation studies) or molecular genetic analyses are required.

	CAUTIONS: Normal levels may be seen in patients undergoing treatment.
Methodology:	Liquid Chromatography Tandem Mass Spectrometry (LC-MS/MS)
References:	Test Catalog - Mayo Clinic Laboratories (mayocliniclabs.com) (February 2023)
Updates:	02/14/2023: Initial entry