
Lab Dept: Chemistry

Test Name: PHENYLALANINE & TYROSINE, BLOOD

General Information

Lab Order Codes: PHTY

Synonyms: Phenylketonuria (PKU)

CPT Codes: 84510 – Tyrosine
84030 – Phenylalanine (PKU), blood

Test Includes: Phenylalanine and Tyrosine reported in mg/dL

Logistics

Test Indications: Useful in diagnosis of phenylketonuria (PKU) and to monitor phenylalanine and tyrosine levels in PKU patients on low phenylalanine diets.

Lab Testing Sections: Chemistry – Sendouts

Referred to: MHealth Fairview University of Minnesota Medical Center (UM Test code: LAB3799 or TYPH)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6500

Test Availability: Daily – Testing performed on Mondays and Wednesdays

Turnaround Time: 2 – 5 days

Special Instructions: Home collection of dried blood spot cards require approval of Children's Minnesota Referrals/Sendouts Laboratory Technical Specialist and must be accompanied by the appropriate custom requisition form. Contact the lab for details.

Specimen

Specimen Type: Blood

Container: Blood by capillary puncture:
Dried blood spot on Whatman filter paper. Filter paper supplies are available from the Children's Minnesota Sendouts Lab. Kits for home collection (lancet, filter paper, requisition and return envelope) are ordered through UMP Outreach by Children's Sendouts Laboratory.

- Blood by venipuncture:
- Green top NO GEL (NaHep [preferred] or LiHep) tube
 - Green top Lithium heparin gel separator tube
 - Lavender top (EDTA) tube
 - Red top (NO GEL)

Draw Volume: 3 mL blood (Minimum: 0.3 mL) or blood absorbed onto filter paper.

Processed Volume: 1 mL (Minimum: 0.05 mL) plasma/serum

Collection: Routine venipuncture or capillary puncture

Special Processing: Lab Staff:

Dried Blood Spot:

Allow blood spots on filter paper to completely dry for a minimum of 3 hours. Store and ship ambient in a zip-top plastic biohazard bag. Forward promptly. Home collections must be accompanied by the appropriate requisition form.

Blood:

Centrifuge specimen, remove serum/plasma aliquot into a screw-capped round bottom plastic vial. Store and ship plasma/serum frozen. Forward promptly.

Sendouts staff: Refer to PHTY procedure for the patient home collection process.

Patient Preparation: None

Sample Rejection: Mislabeled or unlabeled specimens; insufficient specimen; specimen collected in incorrect container.

Interpretive

Reference Range:

Phenylalanine:	
Age:	Result (mg/dL):
0 – 3 months:	0.0 - 1.9 mg/dL
4 months – 11 years:	0.1 - 1.4 mg/dL
> or = 12 years:	0.5 - 1.6 mg/dL

Tyrosine	
Age:	Result (mg/dL):
0 – 3 months:	0.0 - 2.7 mg/dL
4 months – 11 years:	0.4 - 1.6 mg/dL
> or = 12 years:	0.6 - 2.4 mg/dL

Critical Values: N/A

Limitations: N/A

Methodology: High performance ion exchange liquid chromatography.

References: [MHealth Fairview University of Minnesota Medical Center](#) August 2024

Updates:
 5/8/2008: Initial entry
 12/7/2023: Retired order due to low usage/routine testing performed by an alternate reference lab.
 8/26/2024: Reinitiated order due to previous reference lab becoming obsolete. Added details about blood spot collections and patient home collections of blood spot cards. Updated reference lab test code.