
Lab Dept: Chemistry

Test Name: AMINO ACIDS, PLASMA

General Information

Lab Order Codes: AAQP

Synonyms: Amino Acid Fractionation

CPT Codes: 82139 – Amino acids; 6 or more, quantitative, each specimen

Test Includes: Taurine, threonine, serine, asparagine, glutamic acid, glutamine, proline, alanine, citrulline, alpha-amino-n-butyric acid, valine, cystine, methionine, isoleucine, leucine, tyrosine, phenylalanine, beta-alanine, ornithine, lysine, histidine, argininosuccinic acid, allo-isoleucine, arginine, hydroxyproline, glycine, aspartic acid, ethanolamine, sarcosine, 1-methylhistidine, 3-methylhistidine, homocitrulline, alpha-aminoadipic acid, gamma-amino-n-butyric acid, beta-aminoisobutyric acid, hydroxylysine, cystathionine, and tryptophan levels reported in nmol/mL.

Logistics

Test Indications: Evaluating or monitoring patients with possible inborn errors of metabolism or other causes of amino acid imbalances.

May aid in evaluation of endocrine disorders, liver diseases, neurological disorders, nutritional disturbances, renal failure, and burns.

Not all patients with homocystinuria/homocystinemia will be detected by this assay. If there is a concern for homocystinemia, order Mayo's Homocysteine, Total, Plasma in conjunction with this amino acid profile.

Lab Testing Sections: Chemistry - Sendouts

Referred to: Mayo Clinic Laboratories (MML Test: AAQP)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 3 - 5 days, test performed Monday – Friday

Special Instructions: Provide family history, clinical condition (asymptomatic or acute episode), diet and drug therapy to the lab to accompany the specimen.

See [Patient Preparation](#)

Specimen

Specimen Type: Blood

Container: Green top (SODIUM Heparin) tube ON ICE

Note: Lavender EDTA and Lithium Heparin are **NOT** acceptable.

Draw Volume: 1.5 mL (Minimum: 1 mL) blood

Processed Volume: 0.5 mL (Minimum: 0.3 mL) plasma

Collection: Routine blood collection

Special Processing: Lab Staff: Centrifuge specimen immediately (at least within 4 hours of collection), separate and aliquot into a screw-capped round bottom plastic vial. Ensure that **no** buffy coat (cell layer) is transferred.

Include family history, clinical condition, diet and drug therapy information along with the specimen. Ship and store at frozen temperatures. Forward promptly

Frozen plasma stable for 14 days.

Patient Preparation: Overnight fast is preferred (4 hours minimum). Infants should be drawn before next feeding (2-3 hours without total parenteral nutrition [TPN], if possible).

Sample Rejection: Mislabeled or unlabeled specimens; incorrect anticoagulant; specimen other than sodium heparin plasma.

Interpretive

Reference Range: An interpretation is provided with each report. See Mayo's catalog for details.

Critical Values: N/A

Limitations: Reference values are for fasting patients.

Methodology: Quantitative analysis by LC-MSMS

References: [Mayo Clinic Laboratories](#) June 2024

Updates:

3/11/2004: Test moved from Fairview Diagnostic Laboratories to Mayo Medical Laboratories.

5/16/2008: Updated link to reference ranges.

1/11/2011: Addition of arginosuccinic acid and allo-leucine. Units change from $\mu\text{mol/L}$ to nmol/mL .

2/8/2012: Tube type changed to Na Hep.

10/3/2012: 17 additional amino acid levels have been added.

4/1/2016: Added alternate tubes.

2/15/2016: Tube update.

6/28/2024: Updated the included list of amino acids in the panel, omitted lithium heparin and EDTA as acceptable container types, added specimen stability.