



Amino Acids Test

Detect the Malfunctioning of Your Body's Building Blocks

Amino acids are the building blocks of all structural proteins essential for life. They play an important role in neurotransmitter function, cholesterol and carbohydrate metabolism, and inflammatory and detoxification processes. They also help form glutathione, the main antioxidant that controls detoxification and neutralizes free radicals in the body.

The 22 standard amino acids are either used for protein synthesis (or synthesis of other molecules) or are oxidized into a source of energy. Twelve amino acids are considered conditionally essential, meaning humans must obtain them from their diet in order to maintain proper growth and protein energy. Ten amino acids are considered non-essential, meaning they can be synthesized in the body and are not exclusively obtained from diet. Humans need the essential amino acids to be in certain ratios for optimum effectiveness.

Benefits of the GPL Amino Acids Test

The Great Plains Laboratory Amino Acids Test shows the level of amino acids available in the body for building structural, transport, and storage proteins, building immunoglobins, and making enzymes. It also offers important clinical data on metabolic, nutritional, and neurological disorders, directly or indirectly dependent on the amino acids levels evaluated. Our two test options, plasma and urine, analyze 40 amino acids and provide a detailed explanation of the causes and possible consequences of detected abnormalities, along with nutritional recommendations.

Amino acid imbalances are frequent underlying causes of metabolic, gastrointestinal, neurological, and behavioral disorders. Low levels of amino acids can increase susceptibility to various diseases, complicate healing processes, and cause fatigue and general discomfort. The Amino Acids Test can also help clarify or reinforce diagnoses from other test results, as well as guide practitioners on how to best modify a patient's diet to increase low amino acid levels. Foods rich in amino acids include red meat, poultry, seafood, beans, nuts, seeds, and quinoa. Specific amino acids are also available as supplements.

Recommended for the Following Disorders:

- Autism Spectrum Disorder
- Behavioral Disorders
- Cardiovascular Problems
- Depression
- Dermatitis
- Chronic Fatigue
- Failure to Thrive
- Gastrointestinal Problems
- Inborn Errors of Metabolism
- Kidney Stones
- Muscular Weakness
- Obsessive Compulsive Disorder
- Osteoporosis
- Poor Immunity
- Seizures
- Sleep Disorders
- Tic Disorder
- Tourette Syndrome
- Weak Nails

This Test Includes:

- Essential/Conditionally Indispensible Amino Acids
- Non-Essential Amino Acids
- Gastrointestinal Markers
- Magnesium-Dependent Markers
- B6, B12, and Folate-Dependent Markers
- Detoxification Markers
- Neurological Markers
- Urea Cycle Metabolites

Pairing the Amino Acids Test With Other Tests

The Amino Acids Urine Test pairs perfectly with our Organic Acids Test (OAT) and other urine tests, giving you a more comprehensive assessment for your patients. These tests can easily be run on the same urine sample as well.

Specimen Requirements

25 mL of first morning urine or 1 lavender-top tube of whole blood (requires overnight fasting).

Sample Report and Interpretations

| SPECIMEN VALIDITY | | | | | | |
|-------------------------|--------|-----------------|--|------------------|------------------|-------------------------------------|
| SPECIMEN MARKERS | RESULT | REFERENCE RANGE | PERCENTILE | | | |
| | | | 2.5 th | 16 th | 50 th | 84 th 97.5 th |
| Creatinine | 160 | 45- 225 mg/dL | [Visual representation of percentile distribution] | | | |
| Glutamine/Glutamate | 28 | 5- 160 | [Visual representation of percentile distribution] | | | |
| Ammonia Level | 32700 | 9000- 39000 µM | [Visual representation of percentile distribution] | | | |
| SPECIMEN VALIDITY INDEX | | | [Visual representation of specimen validity index] | | | |

| ESSENTIAL / CONDITIONALLY INDISPENSABLE AMINO ACIDS | | | | | | |
|---|------------------------|-----------------|--|------------------|------------------|-------------------------------------|
| ESSENTIAL AMINO ACIDS | RESULT µM/g creatinine | REFERENCE RANGE | PERCENTILE | | | |
| | | | 2.5 th | 16 th | 50 th | 84 th 97.5 th |
| Methionine | 6 | 7- 35 | [Visual representation of percentile distribution] | | | |
| Lysine | 84 | 35- 500 | [Visual representation of percentile distribution] | | | |
| Threonine | 190 | 60- 230 | [Visual representation of percentile distribution] | | | |
| Leucine | 43 | 18- 70 | [Visual representation of percentile distribution] | | | |
| Isoleucine | 9.9 | 8- 35 | [Visual representation of percentile distribution] | | | |
| Valine | 47 | 12- 50 | [Visual representation of percentile distribution] | | | |
| Phenylalanine | 54 | 25- 75 | [Visual representation of percentile distribution] | | | |
| Tryptophan | 87 | 20- 75 | [Visual representation of percentile distribution] | | | |
| Taurine | 3120 | 170- 1200 | [Visual representation of percentile distribution] | | | |
| Cysteine | 44 | 20- 57 | [Visual representation of percentile distribution] | | | |
| Arginine | 30 | 8- 50 | [Visual representation of percentile distribution] | | | |
| Histidine | 1030 | 270- 1150 | [Visual representation of percentile distribution] | | | |

| NONESENTIAL AMINO ACIDS | | | | | | |
|-------------------------|------------------------|-----------------|--|------------------|------------------|-------------------------------------|
| NONESENTIAL AMINO ACIDS | RESULT µM/g creatinine | REFERENCE RANGE | PERCENTILE | | | |
| | | | 2.5 th | 16 th | 50 th | 84 th 97.5 th |
| Alanine | 310 | 100- 500 | [Visual representation of percentile distribution] | | | |
| Aspartate | 11 | 7- 23 | [Visual representation of percentile distribution] | | | |
| Asparagine | 140 | 40- 180 | [Visual representation of percentile distribution] | | | |

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