

## The Amino Acids 40 Plasma Profile

**Metametrix/Genova Diagnostics**

<http://www.metametrix.com>

In addition to pinpointing problems in amino acid absorption and determining essential amino acid imbalances, the plasma amino acid 40 test includes evaluation of limiting, branched chain, and essential and non-essential amino acids. It also identifies several functional categories, such as neuroendocrine, vascular, collagen status and detoxification, along with five calculated ratios, and identifies vitamin and mineral insufficiencies.

### Plasma Amino Acids

Fasting plasma levels represent a homeostatic balance between supply and utilization of amino acids making this specimen option ideal for repeated assessments to monitor progress of treatment. Collecting a fasting plasma specimen from a patient removes recent dietary intake effects. The following factors can effect changes over time in plasma:

- Chronic dietary intake
- Digestive efficiency
- Hepatic uptake
- Skeletal muscle's ability to maintain transamination

### Why is Amino Acid Testing Important?

Amino acids, known as the "building blocks" of proteins, are found in every tissue of the body. They play a major role in nearly every chemical process that affects both physical and mental function including the formation of ligaments, tendons, bones, and antibodies, as well as regulation of enzymes and blood transport proteins. Twenty different amino acids are used to synthesize proteins.

The human body can synthesize all of the amino acids necessary to build proteins except for ten called the "essential amino acids". These ten must be included in the diet or supplemented to be in adequate supplies. Failure to obtain enough of even 1 of the 10 essential amino acids has serious health implications and can result in degradation of the body's proteins. Muscle and other protein structures may be dismantled to obtain the one amino acid that is needed.

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Page 1 of 2

## Amino Acids Have More Diverse Functions Than Any Other Nutrient Group, Including:

- Gastrointestinal function
- Cellular energy production
- Detoxification
- Neurotransmitter metabolism
- Muscle catabolism
- Collagen
- Nutritional markers
- Vascular function

## Conditions Associated with Amino Acid Changes in Plasma:

- Cardiovascular disease
- Depression
- Anxiety
- Insomnia
- Chronic Fatigue Syndrome
- Multiple sclerosis
- Rheumatoid arthritis
- Epilepsy
- Congestive heart failure
- Impotence/Erectile pain syndromes
- Multiple chemical sensitivities
- Detoxification disorders
- Autism Spectrum Disorders
- Alzheimer's Disease
- Hypothyroidism
- Arrhythmias
- Hypertension
- ADD/ADHD
- Infertility

## Customized Amino Acid Formula

A formula for a customized amino acid blend, based on your patient's specific test results, is provided with every plasma amino acid test result. These customized amino acid formulations provide appropriate amounts of essential and conditionally essential amino acids, delivered in a balanced ratio to offset the risk of imbalance sometimes seen with the use of single amino acid supplements. This blend can be made by many compounding pharmacies.