

Urinary Amino Acids



Amino acids are the building blocks of protein. In free form, or linked in peptide chains, they are involved in numerous activities such as neurotransmitter function, pH regulation, cholesterol metabolism, hormone metabolism, pain control, detoxification, enzyme reactions, anti-oxidant protection and control of inflammation.

Significant progress in amino acid research has revealed a definitive link between amino acid imbalance and related symptomatology. This provides information on protein and nutrient cofactor adequacy, enzyme functionality, predisposition to various degenerative disorders, wasting syndromes, gastrointestinal dysfunction, neurological disorders, and impairments in detoxification, inborn errors of metabolism and a wide variety of clinical conditions.

In the Urinary Amino Acids test more than 40 analytes are measured, providing valuable information on metabolic and nutritional imbalances.

Using a first morning urine specimen, the test can identify current amino acid status and any existing imbalances. Results can be utilised in the design of specific replacement therapy, aimed at restoring balance where necessary.

Due to renal conservation of amino acids; urine levels typically drop before plasma levels. Urine is also not subject to the circadian rhythm variation in amino acids that is present in blood, and excesses or deficiencies over a period of time can be more easily assessed. For these reasons, a Urinary Amino Acids test is more likely to reveal marginal deficiencies.

Plasma amino acids analysis may be preferred if collecting urine is complicated. Other possible reasons for selecting plasma analysis include severe malnutrition, anorexia, haematuria conditions (including menstruation) and rheumatoid arthritis, where the common pattern of low histidine only shows in a plasma sample.

Amino Acids Tested

- *Essential Amino Acids*
- *Non-Essential Amino Acids*
- *Intermediary Metabolites and Diagnostic Markers*
- *Dietary Peptide Related Markers*

Specimen Requirements

- *Two specimens are required from the first morning urine void*

Test Kit

Once the practitioner has given the patient their request form, the patient can order their test kit online at www.functionalpathology.com.au or by calling Healthscope Functional Pathology customer service on 1300 55 44 80 between the hours of 8.30am and 5.30pm AEST. The test kit contains full instructions.

Turnaround Time

The standard turn around time for this test is 16-20 working days from the date the patient's specimen/s are received at our laboratory. This test is performed by Genova Diagnostics, USA, for whom Healthscope Functional Pathology is the exclusive Australian distributor.

Test Results

Patient results will be delivered via mail, unless requested otherwise. However, we can also issue results via:

- Fax
- Electronic Download
- Web Based Results

Technical Support

All Healthscope Functional Pathology tests are accompanied by an Interpretive Guide to assist practitioners in their clinical understanding and patient management for each result. Healthscope Functional Pathology also has experienced full time Technical Advisors available for practitioners to discuss appropriate test selection, interpretation of test results, individual cases and other technical matters. Please call 1300 55 44 80 between the hours of 8.30am and 5.30pm AEST or email infofp@healthscope.com.au

Companion Tests

- **Complete Digestive Stool Analysis (CDSA)**
- **Intestinal Permeability (IP)**
- **Oxidative Stress Profile**
- **Vitamins, Minerals and Antioxidants**

A number of Healthscope Functional Pathology tests may be useful in conjunction with the Amino Acid Profile. For example, certain patterns of amino acids may suggest maldigestion, dysbiosis or leaky gut. A CDSA may serve to confirm digestive or absorptive impairments, as well as reveal complications resulting from them, such as dysbiosis, infection, or reduced immune function. An Intestinal Permeability test may further reveal malabsorption or a “leaky gut” resulting from these imbalances.

Subnormal levels of amino acids involved in the body’s detoxification processes can indicate impairments in this area. Phase II conjugation reactions, as well as antioxidant activity, are extremely dependant on the availability of amino acid precursors, particularly the sulphur-containing amino acids such as methionine, cysteine, glutathione and taurine. Inadequate reserves can result in poor clearance of xenobiotics and endogenous compounds, as well as oxidative stress.

As a number of vitamins and minerals are used as cofactors in amino acid metabolism, imbalances detected on the test report may indicate deficiencies of some of these nutrients. A blood test to assess these is therefore recommended. The main nutritional cofactors in amino acid metabolism include thiamine, riboflavin, niacin, pyridoxine, B12, folate, zinc and magnesium.