

ORGANIC ACIDS IN URINE

In this test, abnormalities in metabolism of organic acids are measured. The test provides information about metabolites of neurotransmitters, amino acids, fatty acids, energy production (citric acid cycle) and the functioning of certain vitamins and minerals. Besides metabolites of human origin, also certain toxic metabolites of pathogenic micro-organisms that live in the human gut are measured (e.g., candida and clostridia). The following metabolites are determined (only as a panel):

Yeast/ Fungal markers

Citramalic
5-hydroxymethyl-2 furoic
3-oxoglutaric
Furan -2,5-dicarboxylic
Furancarboxylglycine
Tartaric
Arabinose
Carboxycitric

Malabsorption and bacterial markers

2-hydroxyphenylacetic
4-hydroxyphenylacetic
Hippuric
3-indoleacetic
HPHPA (Clostridia marker)

Oxalate metabolites

Glyceric
Glycolic
Oxalic

Glycolytic cycle metabolites

Lactic
Pyruvic
2-hydroxybutyric

Krebs Cycle metabolites

Succinic
Fumaric
Malic

2-oxoglutaric
Aconitic
Citric

Neurotransmitter metabolites

HVA (homovanillic)
VMA (Vanillylmandelic)
5-hydroxyindoleacetic (5-HIAA)
Quinolinic
Kynurenic

Pyrimidine metabolites

Uracil
Thymine

Ketone and fatty acid oxidation

3-hydroxybutyric
Acetoacetic
4-hydroxybutyric
Ethylmalonic
Methylsuccinic
Adipic
Suberic
Sebacic

Nutritional markers

Methylmalonic (vitamin B12 marker)
Pyridoxic (vitamin B6)

Pantothenic (vitamin B5)
Glutaric (vitamin B2 marker)
3-hydroxy-3-methylglutaric (Co Q10 marker)
N-acetylcysteine (glutathion precursor)
Methylcitric (vitamin B7/Biotin marker)

Indicators of detoxification

Pyroglutamic
Orotic
2-hydroxyhippuric

Amino acid metabolites

2-hydroxyisovaleric
2-oxoisovaleric
3-methyl-2-oxovaleric
2-hydroxyisocaproic
2-oxoisocaproic
2-oxo-4-methylbutyric
Mandelic
Phenyllactic
Phenylpyruvic
Homogentisic
4-hydroxyphenyllactic
N-acetylaspartic
Malonic
3-methylglutaric

TEST INDICATIONS

Unexplained severe, unusual or recurrent clinical symptoms
Unexplained birth defects and SIDS (sudden infants death syndrome)
Physical and/or developmental retardation
Frequent infections
Immunodeficiency

Alopecia and/or severe dermatitis
Neurological symptoms
Unexplained periods of nausea and vomiting
Peculiar body odor or urine odor or abnormally colored urine
Psychosis, Autism and other severely abnormal Behavior

COMPLEMENTARY TESTS:

Amino acids (in urine or blood)
Neurotransmitters (in platelets or urine)
Faeces test

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