



## ORGANIC ACIDS TEST EVALUATES CRITICAL METABOLIC MARKERS IN CHRONIC DISORDERS

Comprehensive or Microbial (Short) Panel - U.S. Patent #5,686,311

### Importance of the Organic Acids Test

The Great Plains Laboratory, Inc. Organic Acids Test offers the most complete and accurate evaluation of intestinal microorganisms, such as yeast and bacteria of critical importance in autism and PDD. Abnormal toxic metabolites of these microorganisms can cause or worsen behavior disorders, hyperactivity, aggressiveness, affect energy levels and immune functioning. Yeast can attach to the intestinal wall causing leaky gut syndrome, which can cause or exacerbate food allergies, impede absorption and utilization of vitamins and minerals, and cause intestinal disorders. Various factors can cause or affect the intestinal yeast overgrowth, such as antibiotic use, excessive sugars in the diet, selective or combined immune deficiencies, genetic and others factors.

Deficiencies of vitamins, antioxidants, amino acids or fatty acids evaluated in the Organic Acids Test, can also affect the physical and psychological condition, cause fatigue and make the patient more vulnerable to infections and viruses.

Recommended treatments for these symptoms, include antifungal or antibacterial products, probiotic supplementation, vitamins, antioxidants and dietary modification, these treatments may result in better eye contact and sleep, language improvements, reduction of hyperactivity and stimming, and improvements in intestinal and immune functioning.

The Organic Acids Test is one of the most comprehensive and accurate of its kind, was developed by Dr. William Shaw, biochemist researcher who spent years on the research of specific yeast



Microscopic evaluation of the Candida Albicans yeast strain

and bacteria byproducts in autism. The test is done with the method of gas chromatography/mass spectrometry. As a valued customer, you will receive the benefits of expert testing with experts, free consultations by phone; detailed explanations of results; and easy testing procedures.

For the most complete yeast evaluation, it is recommended to do this test in combination with stool yeast culture and sensitivity.

Recommended for the following disorders and diseases:

- ☀ Anxiety
- ☀ Gastrointestinal disorders, diarrhea or constipation
- ☀ Fibromyalgia
- ☀ Depression
- ☀ Learning difficulties
- ☀ Attention deficit disorders
- ☀ Recurrent infections
- ☀ Alzheimer's disease
- ☀ Asperger's syndrome
- ☀ Chronic fatigue
- ☀ Colitis, Crohn's disease
- ☀ Down's syndrome
- ☀ Multiple sclerosis
- ☀ Endometriosis
- ☀ AIDS
- ☀ Autism and developmental disorders

***"We have noticed...much improvement in hyperactivity, more eye contact, increased vocalization, better sleep pattern, better concentration, decrease of compulsive behaviors and self-injury. The positive impact of your findings on our son's life and our family cannot be described in words."***

Albert E., father of a child with autism in Paramus, NJ

## Organic Acids Test



It is equally important to measure levels of minerals, which play an essential part in numerous physiochemical reactions within body cells. These reactions include receiving nutrients, filtering, emulsifying, absorbing vitamins, transforming energy and eliminating toxins, and many others. Toxic overload and metabolic imbalances favor minerals depletion.

Test results frequently show high heavy metal levels coupled with low mineral levels in people with developmental and neurological disorders, chronic fatigue, as well as apparently healthy individuals not feeling "a 100 percent". Our nutritional consultant will help you interpret test results.

## Some Compounds Evaluated in the Organic Acids Test and Their Significance

### Yeast /fungal byproducts

Yeast byproducts can cause toxic effects on the brain and affect the neurological functioning.

Yeast can cause or exacerbate the leaky gut condition, contributing to intestinal disorders, food allergies and vitamin malabsorption. Yeast causes or affects many symptoms of autism, chronic fatigue, psychological and immune disorders.

### Citramalic acid

High levels indicate elevation of gastrointestinal yeast.

### 5 Hydroxymethyl-2-furoic acid

High levels indicate intestinal yeast, such as Aspergillus.

### Tartaric acid

Toxic metabolite of yeast, which can affect muscular and kidney functioning.

### Arabinose

Metabolite of the Candida intestinal yeast, indicating recent yeast overgrowth.

### Bacterial byproducts

#### HPHPA

Byproduct of anaerobic bacteria of the Clostridia type, which possibly causes or

aggravates psychosis, severe constipation, depression and schizophrenic symptoms. Very high levels are also common in autism, seizures and chronic fatigue.

### Krebs Cycle

Krebs Cycle is a cycle of energy production.

### Succinic acid

May indicate a riboflavin or coenzyme-Q10 deficiency, genetic rare diseases, or elevation of gastrointestinal bacteria.

### 2-Oxoglutaric acid

May indicate vitamin B deficiency. Very low levels are common in chronic fatigue.

### Aconitic and citric acids


May indicate antioxidant deficiency and a need for additional glutathione.

### Neurotransmitters

#### HVA, VMA

High levels can indicate different tumors, such as neuroblastoma, ganglioneuroma, etc.

## Sample Lab Report



**The Great Plains Laboratory, Inc.**

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Patient ID	Physician Name
Patient Name	Date of Collection
Patient Age	Time of Collection
Sex	Report Date

Compound	Reference Range mmol/mol creatinine	Patient Value		Reference Interval		
				Low	Normal	High
<b>Yeast/Fungal</b>						
citramalic	0.0 - 2.0	8.05	H	[Progressive bar chart showing high level]		
5-hydroxymethyl-2-furoic	0.0 - 80.0	11.17		[Progressive bar chart]		
3-oxoglutaric	0.0 - 0.5	2.16	H	[Progressive bar chart showing high level]		
furan-2,5-dicarboxylic	0.0 - 50.0	18.24		[Progressive bar chart]		
furan-carbonylglycine	0.0 - 60.0	6.54		[Progressive bar chart]		
tartaric	0.0 - 16.0	5.41		[Progressive bar chart]		
arabinose	0.0 - 47.0	373.10	H	[Progressive bar chart showing high level]		
carboxycitric	0.0 - 46.0	14.96		[Progressive bar chart]		
<b>Bacterial</b>						
2-hydroxyphenylacetic	0.0 - 10.0	0.77		[Progressive bar chart]		
4-hydroxyphenylacetic	0.0 - 50.0	39.93		[Progressive bar chart]		
HPHPA	0.0 - 150.0	461.12	H	[Progressive bar chart showing high level]		
VMA analog	0.0 - 31.0	9.03		[Progressive bar chart]		
<b>Oxalate Related</b>						
glyceric	0.0 - 10.0	2.44		[Progressive bar chart]		
glycolic	0.0 - 100.0	8.92		[Progressive bar chart]		
oxalic	0.0 - 37.0	171.02	H	[Progressive bar chart showing high level]		
<b>Glycolysis</b>						
lactic	0.0 - 100.0	20.14		[Progressive bar chart]		
pyruvic	0.0 - 50.0	5.61		[Progressive bar chart]		
2-hydroxybutyric	0.0 - 2.0	0.48		[Progressive bar chart]		
<b>Krebs Cycle</b>						

## Testing Protocol

You can contact The Great Plains Laboratory, Inc. via phone, fax, e-mail, or from our website to order a test kit. In just a few days, you will receive the test kits, along with complete shipping materials, sample requirements and instructions.

Follow the instructions to collect the sample, fill out test request form, have this form signed by a health professional and send us the sample by express overnight courier (shipping cost is included in the price for U.S. clients only). Please indicate the payment method or insurance information on the order form. We are able to file for reimbursement from insurance companies in the United States. Patients from other countries have to provide the payment up front and later can try to obtain the reimbursement from their insurance company.

The results will be faxed with detailed explanations to your health professional and mail them to you approximately three to four weeks after receiving your samples. You may schedule a free phone consultation with our nutritional consultant after receiving the results.

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