

# Top 25 Organic Acid Markers for Clinical Interpretation

A quick-reference guide to the most clinically relevant organic acid markers measured in urine. Use this worksheet to identify metabolic dysfunction, nutrient deficiencies, microbial overgrowth, and neurotransmitter imbalances during organic acids test interpretation.

RANK	CODE / DESCRIPTION
1	<b>Citric Acid</b> Krebs cycle intermediate; low levels suggest mitochondrial dysfunction or nutrient cofactor deficiency
2	<b>Succinic Acid</b> Krebs cycle marker; elevated levels may indicate mitochondrial stress or bacterial overgrowth
3	<b>Malic Acid</b> Krebs cycle marker; abnormal levels reflect impaired energy production pathways
4	<b>Fumaric Acid</b> Krebs cycle intermediate; elevated values linked to mitochondrial dysfunction
5	<b>2-Oxoglutaric Acid</b> Krebs cycle marker sensitive to B-vitamin and lipoic acid status
6	<b>Pyruvic Acid</b> Glycolysis endpoint; elevated levels suggest impaired conversion to acetyl-CoA
7	<b>Lactic Acid</b> Elevated in anaerobic metabolism, mitochondrial dysfunction, or intense exercise
8	<b>Oxalic Acid</b> High levels associated with kidney stone risk, yeast overgrowth, or vitamin B6 deficiency
9	<b>Arabinose</b> Yeast and fungal overgrowth marker; elevated in Candida colonisation
10	<b>Tartaric Acid</b> Fungal metabolite; elevated levels suggest gastrointestinal yeast overgrowth
11	<b>HPHPA</b> 3-(3-Hydroxyphenyl)-3-hydroxypropionic acid; Clostridia species overgrowth marker

RANK	CODE / DESCRIPTION
13	<b>DHPPA</b> Marker of beneficial bacterial metabolism; low levels suggest dysbiosis
14	<b>HVA</b> Homovanillic acid; dopamine metabolism marker reflecting catecholamine turnover
15	<b>VMA</b> Vanillylmandelic acid; norepinephrine and epinephrine metabolism endpoint
16	<b>5-HIAA</b> 5-Hydroxyindoleacetic acid; serotonin metabolism marker for mood assessment
17	<b>Quinolinic Acid</b> Tryptophan metabolite; elevated levels linked to neuroinflammation and excitotoxicity
18	<b>Kynurenic Acid</b> Neuroprotective tryptophan metabolite; balance with quinolinic acid is clinically relevant
19	<b>Methylmalonic Acid</b> Functional marker for vitamin B12 deficiency; elevated when B12 is insufficient
20	<b>Pyroglutamic Acid</b> Glutathione deficiency marker; elevated in oxidative stress or drug toxicity
21	<b>Ethylmalonic Acid</b> Fatty acid oxidation marker; elevated in carnitine deficiency or mitochondrial issues
22	<b>3-Hydroxybutyric Acid</b> Ketone body marker; elevated during fasting, ketosis, or fatty acid oxidation disorders
23	<b>Adipic Acid</b> Medium-chain fatty acid oxidation marker; elevated in carnitine or riboflavin deficiency
24	<b>Suberic Acid</b> Fatty acid oxidation marker; abnormal in medium-chain acyl-CoA dehydrogenase deficiency

RANK CODE / DESCRIPTION

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**25**

**Phosphoric Acid**

Mineral metabolism marker; reflects calcium, magnesium, and phosphorus balance

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