

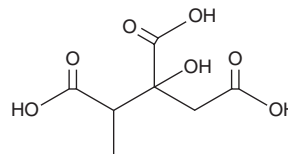
# PRODUCT INFORMATION



## 2-Methylcitric Acid

Item No. 29327

**CAS Registry No.:** 6061-96-7  
**Formal Name:** 2-hydroxy-1,2,3-butanetricarboxylic acid  
**MF:** C<sub>7</sub>H<sub>10</sub>O<sub>7</sub>  
**FW:** 206.2  
**Purity:** ≥95%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

2-Methylcitric acid is supplied as a crystalline solid. A stock solution may be made by dissolving the 2-methylcitric acid in the solvent of choice, which should be purged with an inert gas. 2-Methylcitric acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 2-methylcitric acid in these solvents is approximately 10, 30, and 25 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 2-methylcitric acid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 2-methylcitric acid in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

2-Methylcitric acid is an endogenous tricarboxylic acid formed by the condensation of propionyl-CoA with oxaloacetic acid by citrate synthase under conditions of propionyl-CoA accumulation.<sup>1</sup> Accumulation of 2-methylcitric acid is associated with cobalamin deficiencies, propionic acidemia, and methylmalonic acidurias.<sup>1,2</sup>

### References

1. Allen, R.H., Stabler, S.P., Savage, D.G., *et al.* Elevation of 2-methylcitric acid I and II levels in serum, urine, and cerebrospinal fluid of patients with cobalamin deficiency. *Metabolism* **42(8)**, 978-988 (1993).
2. Al-Dirbashi, O.Y., McIntosh, N., and Chakraborty, P. Quantification of 2-methylcitric acid in dried blood spots improves newborn screening for propionic and methylmalonic acidemias. *J. Med. Screen.* **24(2)**, 58-61 (2017).

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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