

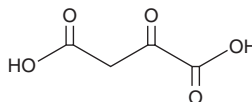
# PRODUCT INFORMATION



## Oxaloacetic Acid

Item No. 30280

**CAS Registry No.:** 328-42-7  
**Formal Name:** 2-oxo-butanedioic acid  
**Synonyms:** NSC 284205, NSC 77688, OAA, Oxalacetic Acid  
**MF:** C<sub>4</sub>H<sub>4</sub>O<sub>5</sub>  
**FW:** 132.1  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 259 nm  
**Supplied as:** A 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

Oxaloacetic acid is supplied as a solid. A stock solution may be made by dissolving the oxaloacetic acid in the solvent of choice, which should be purged with an inert gas. Oxaloacetic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of oxaloacetic acid in these solvents is approximately 15 mg/ml.

### Description

Oxaloacetic acid is an α-keto acid and a key component of cellular metabolism in its conjugate base form, oxaloacetate.<sup>1-3</sup> Oxaloacetate reacts with acetyl-coenzyme A (acetyl-CoA; Item No. 16160) and water to form citrate in the first step of the citric acid cycle and is regenerated by oxidation of L-malate in the final step.<sup>1</sup> It is an intermediate in gluconeogenesis that is formed in mitochondria *via* carboxylation of pyruvate and subsequently decarboxylated and phosphorylated to form phosphoenolpyruvate.<sup>2</sup> It can be converted to aspartate *via* addition of an amino group from glutamate.<sup>3</sup> Oxaloacetate (30 μmol/min per 100 g for 30 minutes, i.v.) reduces blood glutamate levels, severity of neurological dysfunction, and brain edema in a rat model of closed head injury.<sup>4</sup>

### References

1. Berg, J.M., Tymoczko, J.L., and Stryer, L. The citric acid cycle oxidizes two-carbon units. *Biochemistry*, 5th edition, W H Freeman (2002).
2. Berg, J.M., Tymoczko, J.L., and Stryer, L. Glucose can be synthesized from noncarbohydrate precursors. *Biochemistry*, 5th edition, W H Freeman (2002).
3. Berg, J.M., Tymoczko, J.L., and Stryer, L. Amino acids are made from intermediates of the citric acid cycle and other major pathways. *Biochemistry*, 5th edition, W H Freeman (2002).
4. Zlotnik, A., Gurevich, B., Tkachov, S., *et al.* Brain neuroprotection by scavenging blood glutamate. *Exp. Neurol.* 203(1), 213-220 (2007).

#### 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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