

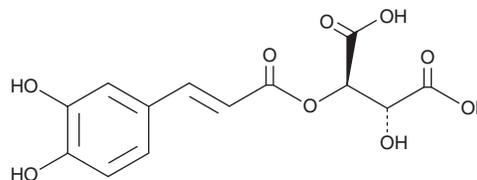
# PRODUCT INFORMATION



## Caftaric Acid

Item No. 25090

<b>CAS Registry No.:</b>	67879-58-7
<b>Formal Name:</b>	(2R,3R)-2-[[[(2E)-3-(3,4-dihydroxyphenyl)-1-oxo-2-propen-1-yl]oxy]-3-hydroxy-butanedioic acid
<b>Synonym:</b>	trans-Caftaric Acid
<b>MF:</b>	C <sub>13</sub> H <sub>12</sub> O <sub>9</sub>
<b>FW:</b>	312.2
<b>Purity:</b>	≥98%
<b>Supplied as:</b>	A solid
<b>Storage:</b>	-20°C
<b>Stability:</b>	≥2 years
<b>Item Origin:</b>	Plant/ <i>Echinacea purpurea</i>



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

### Laboratory Procedures

Caftaric acid is supplied as a solid. A stock solution may be made by dissolving the caftaric acid in water. The solubility of caftaric acid in water is approximately 0.82 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Caftaric acid is a phenolic acid and a tartaric acid ester form of caffeic acid (Item No. 70602).<sup>1</sup> It scavenges 2,2-diphenyl-1-picrylhydrazyl (DPPH; Item No. 14805) free radicals in a cell-free assay ( $EC_{50} = 20.4 \mu\text{M}$ ) and inhibits oxidation of LDL isolated from human plasma by 97.6% compared to vehicle control *in vitro* when used at a concentration of 5  $\mu\text{M}$ .<sup>2,3</sup> Caftaric acid is the main phenolic compound in *V. vinifera* white, pink, and black table grapes as well as various wines.<sup>4</sup> *In vivo*, caftaric acid content in dietary-administered red wine positively correlates with inhibition of protein carbonylation and decreased superoxide dismutase (SOD), glutathione peroxidase (Gpx), and catalase activities in mice.<sup>5</sup>

### References

1. Rice-Evans, C., Miller, N., and Paganga, G. Antioxidant properties of phenolic compounds. *Trends Plant Sci.* **2(4)**, 152-159 (1997).
2. Villaño, D., Fernández-Pachón, M.S., Moyá, M.L., *et al.* Radical scavenging ability of polyphenolic compounds towards DPPH free radical. *Talanta* **71(1)**, 230-235 (2007).
3. Meyer, A.S., Donovan, J.L., Pearson, D.A., *et al.* Fruit hydroxycinnamic acids inhibit human low-density lipoprotein oxidation *in vitro*. *J. Agric. Food Chem.* **46(5)**, 1783-1787 (1998).
4. Aubert, C. and Chalot, G. Chemical composition, bioactive compounds, and volatiles of six table grape varieties (*Vitis vinifera* L.). *Food Chem.* **240**, 524-533 (2018).
5. Gris, E.F., Mattivi, F., Ferreira, E.A., *et al.* Phenolic profile and effect of regular consumption of Brazilian red wines on *in vivo* antioxidant activity. *J. Food Compos. Anal.* **31(1)**, 31-40 (2013).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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