

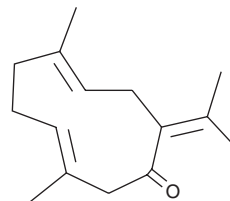
# PRODUCT INFORMATION



## Germacrone

Item No. 30111

**CAS Registry No.:** 6902-91-6  
**Formal Name:** (3E,7E)-3,7-dimethyl-10-(1-methylethylidene)-3,7-cyclodecadien-1-one  
**Synonym:** (E,E)-Germacrone  
**MF:** C<sub>15</sub>H<sub>22</sub>O  
**FW:** 218.3  
**Purity:** ≥98%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Plant/*Curcuma zedoaria*



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

### Laboratory Procedures

Germacrone is supplied as a solid. A stock solution may be made by dissolving the germacrone in the solvent of choice, which should be purged with an inert gas. Germacrone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of germacrone in these solvents is approximately 15, 10, and 20 mg/ml, respectively.

Germacrone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, germacrone should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Germacrone has a solubility of approximately 0.11 mg/ml in a 1:8 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Germacrone is a sesquiterpene that has been found in gingeraceae plants and has diverse biological activities.<sup>1-4</sup> It inhibits pseudorabies virus (PRV) replication in Vero cells when used at concentrations ranging from 10 to 150 μM.<sup>1</sup> Germacrone (50-250 μM) enhances cytotoxicity and apoptosis induced by doxorubicin (Item No. 15007) in doxorubicin-resistant MCF-7/adr cells.<sup>2</sup> *In vivo*, germacrone (5, 10, and 20 mg/kg) reduces body weight gain, visceral fat pad weight, serum insulin and plasma glucose levels, and hepatic lipid levels in a mouse model of high-fat diet-induced obesity.<sup>3</sup> It decreases brain malondialdehyde (MDA) levels and activity of superoxide dismutase (SOD) and glutathione peroxidase (GPX), as well as reduces infarct volume in a rat model of ischemia-reperfusion injury induced by middle cerebral artery occlusion (MCAO).<sup>4</sup>

### References

1. He, W., Zhai, X., Su, J., *et al.* Antiviral activity of germacrone against pseudorabies virus in vitro. *Pathogens* **8**(4), E258 (2019).
2. Xie, X.-H., Zhao, H., Hu, Y.-Y., *et al.* Germacrone reverses adriamycin resistance through cell apoptosis in multidrug-resistant breast cancer cells. *Exp. Ther. Med.* **8**(5), 1611-1615 (2014).
3. Guo, Y.-R. and Choung, S.-Y. Germacrone attenuates hyperlipidemia and improves lipid metabolism in high-fat diet-induced obese C57BL/6J mice. *J. Med. Food* **20**(1), 46-55 (2017).
4. Wu, T., Yin, F., Kong, H., *et al.* Germacrone attenuates cerebral ischemia/reperfusion injury in rats via antioxidative and antiapoptotic mechanisms. *J. Cell. Biochem.* **120**(11), 18901-18909 (2019).

#### 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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