

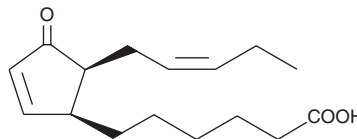
# Product Information



## dinor-12-oxo Phytodienoic Acid

Item No. 10710

**CAS Registry No.:** 197247-23-7  
**Formal Name:** 4-oxo-5S-(2Z)-2-penten-1-yl-2-cyclopentene-1S-hexanoic acid  
**Synonyms:** dinor-OPDA, dinor-12-oxo PDA  
**MF:** C<sub>16</sub>H<sub>24</sub>O<sub>3</sub>  
**FW:** 264.4  
**Purity:** ≥95%  
**Stability:** ≥1 year at -80°C  
**Supplied as:** A solution in ethanol



### Laboratory Procedures

For long term storage, we suggest that dinor-12-oxo phytodienoic acid (dinor-OPDA) be stored as supplied at -80°C. It should be stable for at least one year.

dinor-OPDA is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of dinor-OPDA in these solvents is approximately 15 mg/ml.

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. If an organic solvent-free solution of dinor-OPDA is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of dinor-OPDA in PBS, pH 7.2, is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

In plants, certain unsaturated fatty acids are oxygenated and then further modified along the jasmonate pathway to produce plant hormones that are involved in senescence, flower development, mechanotransduction, and the response to herbivory.<sup>1</sup> dinor-OPDA is an intermediate in the synthesis of jasmonic acid from hexadecatrienoic acid.<sup>2,3</sup> It can also be incorporated into glycerolipids and galactolipids, including certain arabidopsides.<sup>4,5</sup>

### References

- Schaller, A. and Stintzi, A. Enzymes in jasmonate biosynthesis - Structure, function, regulation. *Phytochem.* **70**, 1532-1538 (2009).
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- Gfeller, A., Dubugnon, L., Liechti, R., *et al.* Jasmonate biochemical pathway. *Sci. Signal.* **3(109)**, (2010).
- Kourtchenko, O., Andersson, M.A., Hamberg, M., *et al.* Oxo-phytodienoic acid-containing galactolipids in *Arabidopsis*: Jasmonate signaling dependence. *Plant Physiol.* **145**, 1658-69 (2007).
- Buseman, S.M., Tamura, P., Sparks, A.A., *et al.* Wounding stimulates the accumulation of glycerolipids containing oxophytodienoic acid and dinor-oxophytodienoic acid in *Arabidopsis* leaves. *Plant Physiol.* **142**, 28-39 (2006).

### Related Products

13-*epi*-12-oxo Phytodienoic Acid - Item No. 10195 • dinor-12-oxo Phytodienoic Acid-d<sub>5</sub> - Item No. 10696 • (±)-Jasmonic Acid - Item No. 88300 • (±)7-*epi* Jasmonic Acid - Item No. 88320 • 12-oxo Phytodienoic Acid - Item No. 88520 • (±)-Jasmonic Acid methyl ester - Item No. 9000059

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

### MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via* email to your institution.

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## Cayman Chemical

### Mailing address

1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

### Phone

(800) 364-9897  
(734) 971-3335

### Fax

(734) 971-3640

### E-Mail

custserv@caymanchem.com

### Web

www.caymanchem.com