

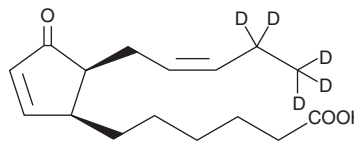
PRODUCT INFORMATION



dinor-12-oxo Phytodienoic Acid-d₅

Item No. 10696

Formal Name:	4-oxo-5S-(2Z)-2-penten-4,4,5,5,5-d ₅ -1-yl-2-cyclopentene-1S-hexanoic acid
Synonyms:	dinor-OPDA-d ₅ , dinor-12-oxo PDA-d ₅
MF:	C ₁₆ H ₁₉ D ₅ O ₃
FW:	269.4
Chemical Purity:	≥98%
Deuterium Incorporation:	≥99% deuterated forms (d ₁ -d ₅); ≤1% d ₀
UV/Vis.:	λ _{max} : 220 nm
Supplied as:	A solution in methanol
Storage:	-80°C
Stability:	≥1 year



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

Laboratory Procedures

dinor-12-oxo Phytodienoic acid-d₅ is intended for use as an internal standard for the quantification of dinor-OPDA by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

dinor-OPDA-d₅ is supplied as a solution in methanol. To change the solvent, simply evaporate the methanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of dinor-OPDA-d₅ in ethanol is approximately 300 mg/ml and approximately 15 mg/ml in DMSO and DMF.

Description

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.¹ dinor-OPDA is an intermediate in the synthesis of jasmonic acid from hexadecatrienoic acid.^{2,3} dinor-OPDA can also be incorporated into glycerolipids and galactolipids, including certain arabidopsides.^{4,5}

References

- Schaller, A. and Stintzi, A. Enzymes in jasmonate biosynthesis - Structure, function, regulation. *Phytochem.* **70**, 1532-1538 (2009).
- Snoeren, T.A.L., Van Poecke, R.M.P., and Dicke, M. Multidisciplinary approach to unravelling the relative contribution of different oxylipins in indirect defense of *Arabidopsis thaliana*. *J. Chem. Ecol.* **35**, 1021-31 (2009).
- 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).

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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