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Zuschläge

- Mindermengenzuschlag
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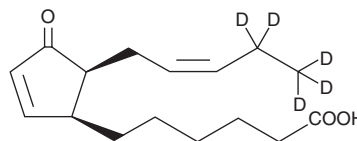
Product Information



dinor-12-oxo Phytodienoic Acid-d₅

Item No. 10696

Formal Name: 4-oxo-5S-(2Z)-2-penten-4,4,5,5,5-d₅-1-yl-2-cyclopentene-1S-hexanoic acid
Synonyms: dinor-OPDA-d₅, dinor-12-oxo PDA-d₅
MF: C₁₆H₁₉D₅O₃
FW: 269.4
Chemical Purity: ≥98%
Deuterium Incorporation: ≤1% d₀
Stability: ≥1 year at -80°C
Supplied as: A solution in methanol



Laboratory Procedures

dinor-12-oxo Phytodienoic acid-d₅ (dinor-OPDA-d₅) contains five deuterium atoms at the 4, 4', 5, 5, and 5' positions. It is intended for use as an internal standard for the quantification of dinor-OPDA by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that dinor-OPDA-d₅ be stored as supplied at -80°C. It should be stable for at least one year.

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 is approximately 15 mg/ml in DMSO and DMF.

dinor-OPDA-d₅ is used as an internal standard for the quantification of dinor-OPDA by stable isotope dilution 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).

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

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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 - Item No. 10710 • (±)-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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