

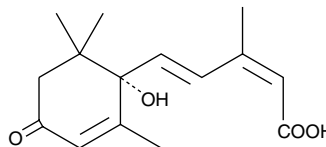
Product Information



(+)-Abscisic Acid

Item No. 10073

CAS Registry No.: 21293-29-8
Formal Name: 5-[(1S)-1-hydroxy-2,6,6-trimethyl-4-oxo-2-cyclohexen-1-yl]-3-methyl-2Z,4E-pentadienoic acid
Synonyms: (+)-ABA, Dormin
MF: C₁₅H₂₀O₄
FW: 264.3
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that (+)-abscisic acid ((+)-ABA) be stored as supplied at -20°C. It should be stable for at least two years.

(+)-ABA is supplied as a crystalline solid. A stock solution may be made by dissolving the (+)-ABA in the solvent of choice. (+)-ABA is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of (+)-ABA in these solvents is approximately 20 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. Organic solvent-free aqueous solutions of (+)-ABA can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of (+)-ABA in PBS, pH 7.2, is approximately 0.3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

ABA is a plant hormone with diverse roles in disease resistance, plant development, and response to stresses (water, salt, temperature, and pathogens).¹⁻³ It is also produced by some plant pathogenic fungi. In addition to key roles in regulating stomatal closing, seed dormancy, and cell division, ABA regulates gene expression and may contribute to epigenetic changes at the chromatin level.⁴ The (+)-enantiomer is the naturally occurring and more active form of ABA.

References

1. Ton, J., Flors, V., and Mauch-Mani, B. The multifaceted role of ABA in disease resistance. *Trends in Plant Science* **14**(6), 310-317 (2009).
2. Seo, M., Nambara, E., Choi, G., *et al.* Interaction of light and hormone signals in germinating seeds. *Plant Mol. Biol.* **69**, 463-472 (2009).
3. Acharya, B.R. and Assmann, S.M. Hormone interactions in stomatal function. *Plant Mol Biol* **69**, 451-462 (2009).
4. Demetriou, K., Kapazoglou, A., Tondelli, A., *et al.* Epigenetic chromatin modifiers in barley: I. Cloning, mapping and expression analysis of the plant specific HD2 family of histone deacetylases from barley, during seed development and after hormonal treatment. *Physiol. Plant.* **136**, 358-368 (2009).

Related Products

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