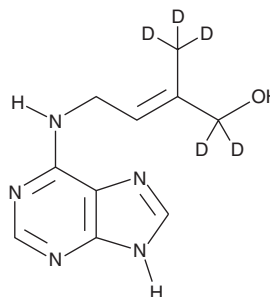


PRODUCT INFORMATION



trans-Zeatin-d₅ Item No. 28534

Formal Name: 2E-methyl-d₃-4-(9H-purin-6-ylamino)-
but-2-en-1,1-d₂-1-ol
MF: C₁₀H₈D₅N₅O
FW: 224.3
Chemical Purity: ≥98% (*trans*-Zeatin)
Deuterium
Incorporation: ≥99% deuterated forms (d₁-d₅); ≤1% d₀
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Synthetic



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

Laboratory Procedures

trans-Zeatin-d₅ is intended for use as an internal standard for the quantification of *trans*-zeatin (Item No. 13226) 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).

trans-Zeatin-d₅ is supplied as a solid. A stock solution may be made by dissolving the *trans*-zeatin-d₅ in the solvent of choice, which should be purged with an inert gas. *trans*-Zeatin-d₅ is soluble in methanol and DMSO.

Description

trans-Zeatin is a cytokinin plant growth regulator with antioxidant and neuroprotective activities.¹⁻⁴ It binds to the cytokinin receptor *Arabidopsis* histidine kinase 3 (AHK3) with a K_D value of 1.3 nM.³ *trans*-Zeatin increases chlorophyll levels in etiolated *Cucumis sativus* cotyledons in a concentration-dependent manner.¹ It increases callus growth and shoot formation in *N. tabacum* calluses when used at concentrations of 5 and 50 μM.² *trans*-Zeatin (25-100 μM) reduces production of reactive oxygen species (ROS) induced by amyloid β (25-35) (Aβ25-35) in PC12 cells.⁴ It reduces scopolamine-induced spontaneous alternations in the Y-maze, indicating enhanced spatial memory, in mice when administered at doses of 1.5, 3, and 4.5 mg/kg per day.

References

1. Fletcher, R.A. and McCullagh, D. Cytokinin-induced chlorophyll formation in cucumber cotyledons. *Planta* **101**(1), 88-90 (1971).
2. Yamada, Y., Sekiya, J., and Koshimizu, K. Cytokinin-induced shoot formation. *Phytochemistry* **11**(3), 1019-1021 (1972).
3. Romanov, G.A., Lomin, S.N., and Schmölling, T. Biochemical characteristics and ligand-binding properties of *Arabidopsis* cytokinin receptor AHK3 compared to CRE1/AHK4 as revealed by a direct binding assay. *J. Exp. Bot.* **57**(15), 4051-4058 (2006).
4. Choi, S.J., Jeong, C.-H., Choi, S.-G., et al. Zeatin prevents amyloid β-induced neurotoxicity and scopolamine-induced cognitive deficits. *J. Med. Food* **12**(2), 271-277 (2009).

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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