

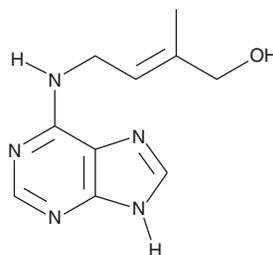
# PRODUCT INFORMATION



## *trans*-Zeatin

Item No. 13226

**CAS Registry No.:** 1637-39-4  
**Formal Name:** 2E-methyl-4-(9H-purin-6-ylamino)-2-buten-1-ol  
**MF:** C<sub>10</sub>H<sub>13</sub>N<sub>5</sub>O  
**FW:** 219.2  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 210, 269 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years



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

### Laboratory Procedures

*trans*-Zeatin is supplied as a crystalline solid. A stock solution may be made by dissolving the *trans*-zeatin in the solvent of choice, which should be purged with an inert gas. *trans*-Zeatin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of *trans*-zeatin in these solvents is approximately 3 and 0.5 mg/ml, respectively.

*trans*-Zeatin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, *trans*-Zeatin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. *trans*-Zeatin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

*trans*-Zeatin is a cytokinin plant growth regulator with antioxidant and neuroprotective activities.<sup>1-4</sup> It binds to the cytokinin receptor *Arabidopsis* histidine kinase 3 (AHK3) with a K<sub>D</sub> value of 1.3 nM.<sup>5</sup> *trans*-Zeatin increases chlorophyll levels in etiolated *Cucumis sativus* cotyledons in a concentration-dependent manner.<sup>1</sup> It increases callus growth and shoot formation in *N. tabacum* calluses when used at concentrations of 5 and 50 μM.<sup>2</sup> *trans*-Zeatin (25-100 μM) reduces production of reactive oxygen species (ROS) induced by amyloid β (25-35) (Aβ<sub>25-35</sub>) in PC12 cells.<sup>4</sup> 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).
5. 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).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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