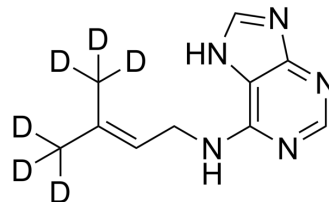


6-(γ,γ -Dimethylallylamino)purine-d₆

Cat. No.:	HY-112103S
CAS No.:	175733-28-5
Molecular Formula:	C ₁₀ H ₇ D ₆ N ₅
Molecular Weight:	209.28
Target:	Isotope-Labeled Compounds
Pathway:	Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	6-(γ,γ -Dimethylallylamino)purine-d ₆ is the deuterium labeled 6-(γ,γ-Dimethylallylamino)purine (HY-112103). 6-(γ,γ -Dimethylallylamino)purine is a plant growth substance[1][2].
In Vitro	<p>Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs^[1].</p> <p>Derivative UV spectroscopic data show that the plant growth substances 6-(γ,γ-Dimethylallylamino)purine (N6-(delta 2-isopentenyl) adenine, i6Ade) and indolylacetic acid (IAA) can bind to the yeast alcohol dehydrogenase (ADH) and affect coenzyme-enzyme binding. At fixed ethanol concentrations (27.8 and 111.1 mM) and varying NAD⁺ concentrations (0.033-2 mM), as well as at fixed levels of coenzyme (0.67 and 2 mM), and at varying concentrations of ethanol (1.4-111.1 mM), the rate of ethanol oxidation is significantly inhibited by i6Ade and IAA. The kinetics of the ADH reaction is affected by two inhibition constants (K_i and K_i') which correspond to the dissociation constants of complexes EI and ESI, respectively. For i6Ade the $K_i=0.52\pm0.06$ mM and $K_i'=0.74\pm0.07$ mM, and for IAA the $K_i=0.88\pm0.03$ mM and $K_i'=0.99\pm0.02$ mM^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

REFERENCES

- [1]. Zikmanis P, et al. Indolylacetic acid and N6-(delta 2-isopentenyl) adenine affect NADH binding to yeast alcohol dehydrogenase and inhibit in vitro the enzymatic oxidation of ethanol. *Biofactors*. 1990 Oct;2(4):237-40.
- [2]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019;53(2):211-223.

Caution: Product has not been fully validated for medical applications. For research use only.

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