

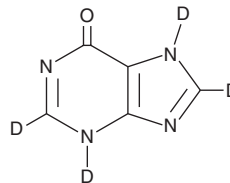
# PRODUCT INFORMATION



## Hypoxanthine-d<sub>4</sub>

Item No. 36330

**CAS Registry No.:** 2483831-32-7  
**Formal Name:** 1,9-dihydro-1,9-d<sub>2</sub>-6H-purin-6-one-2,8-d<sub>2</sub>  
**Synonym:** 6-Hydroxypurine-d<sub>4</sub>  
**MF:** C<sub>5</sub>D<sub>4</sub>N<sub>4</sub>O  
**FW:** 140.1  
**Chemical Purity:** ≥98% (Hypoxanthine)  
**Deuterium**  
**Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A 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

Hypoxanthine-d<sub>4</sub> is intended for use as an internal standard for the quantification of hypoxanthine (Item No. 22254) 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).

Hypoxanthine-d<sub>4</sub> is supplied as a solid. A stock solution may be made by dissolving the hypoxanthine-d<sub>4</sub> in the solvent of choice, which should be purged with an inert gas. Hypoxanthine-d<sub>4</sub> is soluble in DMSO.

### Description

Hypoxanthine is an endogenous purine derivative and the major purine involved in the purine salvage pathway in the brain.<sup>1</sup> Intrastriatal administration of hypoxanthine (10 μM) increases mitochondrial complex II, also known as succinate dehydrogenase, activity and decreases cytochrome c oxidase activity, resulting in neuroenergetic impairment, ATP depletion, and cellular apoptosis in rats. Hypoxanthine also induces hyperuricemia in mice.<sup>2</sup> Spinal fluid levels of hypoxanthine are increased in patients with Lesh-Nyhan syndrome, an inborn error of metabolism characterized by cognitive deficits, motor dysfunction, self-mutilation, and hyperuricemia.

### References

1. Biasibetti-Brendler, H., Schmitz, F., Pierozan, P., *et al.* Hypoxanthine induces neuroenergetic impairment and cell death in striatum of young adult Wistar rats. *Mol. Neurobiol.* **55**(5), 4098-4106 (2018).
2. Yong, T., Zhang, M., Chen, D., *et al.* Actions of water extract from *Cordyceps militaris* in hyperuricemic mice induced by potassium oxonate combined with hypoxanthine. *J. Ethnopharmacol.* **194**, 403-411 (2016).

#### 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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