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Produktinformation

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- Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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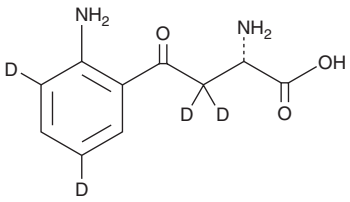
PRODUCT INFORMATION

L-Kynurenine-d_4

Item No. 36307

CAS Registry No.:	2672568-86-2
Formal Name:	(S)-2-amino-4-(2-aminophenyl-3,5-d_2)-4-oxobutanoic-3,3-d_2 acid
Synonyms:	3-anthraniloyl-Alanine-d_4, L-KYN-d_4
MF:	$C_{10}H_8D_4N_2O_3$
FW:	212.2
Chemical Purity:	≥98% (Kynurenine)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

L-Kynurenine-d_4 is intended for use as an internal standard for the quantification of kynurenine 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).

L-Kynurenine-d_4 is supplied as a solid. A stock solution may be made by dissolving the L-kynurenine-d_4 in the solvent of choice, which should be purged with an inert gas. L-Kynurenine-d_4 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of L-kynurenine-d_4 in these solvents is approximately 2, 1, and 0.5 mg/ml, respectively.

Description

L-Kynurenine is an active metabolite of tryptophan (Item Nos. 29600 | 31210).[1] It is formed from tryptophan *via* tryptophan 2,3-dioxygenase (TDO) or indoleamine 2,3-dioxygenase (IDO). L-Kynurenine binds to the aryl hydrocarbon receptor (AhR; K_d = ~4 µM) and increases the activity of ethoxyresorufin-O-deethylase (EROD) in H-4-II-E rat hepatoma cells (EC_{50} = 12.3 µM).[2] It decreases intracellular concentrations of NAD^+ (Item No. 16077) in, and increases lactate dehydrogenase (LDH) activity in the supernatant of, primary human astrocytes and neurons in a concentration-dependent manner.[3] L-Kynurenine in combination with IFN-γ reduces lung injury induced by *A. fumigatus* infection in the *p47$^{phox-/-}$* mouse model of chronic granulomatous disease.[4]

References

1. Stone, T.W., Forrest, C.M., and Darlington, L.G. Kynurenine pathway inhibition as a therapeutic strategy for neuroprotection. *FEBS J.* **279(8)**, 1386-1397 (2012).
2. Opitz, C.A., Litzenburger, U.M., Sahm, F., *et al.* An endogenous tumour-promoting ligand of the human aryl hydrocarbon receptor. *Nature* **478(7368)**, 197-203 (2011).
3. Braidy, N., Grant, R., Brew, B.J., *et al.* Effects of kynurenine pathway metabolites on intracellular NAD^+ synthesis and cell death in human primary astrocytes and neurons. *Int. J. Tryptophan Res.* **2**, 61-69 (2009).
4. Romani, L., Fallarino, F., De Luca, A., *et al.* Defective tryptophan catabolism underlies inflammation in mouse chronic granulomatous disease. *Nature* **451(7175)**, 211-215 (2008).

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