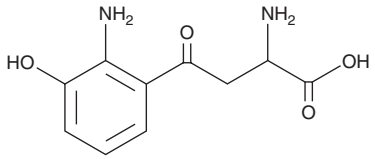
PRODUCT INFORMATION

3-hydroxy-DL-Kynurenine

Item No. 27778

CAS Registry No.:	484-78-6
Formal Name:	α,2-diamino-3-hydroxy-γ-oxo-benzenebutanoic acid
Synonyms:	DL-3-Hydroxykynurenine, 3-Hydroxykynurenine
MF:	$C_{10}H_{12}N_2O_4$
FW:	224.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 236, 274, 379 nm
Supplied as:	A crystalline 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

3-hydroxy-DL-Kynurenine is supplied as a crystalline solid. A stock solution may be made by dissolving the 3-hydroxy-DL-kynurenine in the solvent of choice, which should be purged with an inert gas. 3-hydroxy-DL-Kynurenine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 3-hydroxy-DL-kynurenine in these solvents is approximately 2, 1, and 0.5 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 3-hydroxy-DL-kynurenine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 3-hydroxy-DL-kynurenine in PBS, pH 7.2, is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

3-hydroxy-DL-Kynurenine is an active metabolite of tryptophan.[1-3] It inhibits yeast and rat liver aldehyde dehydrogenase by 97 and 69%, respectively, when used at a concentration of 100 µM.[1] 3-hydroxy-DL-Kynurenine is active against methicillin-resistant *S. aureus* (MRSA), *S. epidermidis*, vancomycin-resistant *E. faecalis* (VRE), *E. coli*, multidrug-resistant *P. aeruginosa* (MDRP), and *C. albicans* (IC_{50}s = 31.2, 39.2, 57.6, 24, 25.6, and 137.6 µg/ml, respectively).[2] It increases intracellular NAD^+ levels and extracellular lactate dehydrogenase (LDH) activity in human neurons and astrocytes in a concentration-dependent manner.[3]

References

1. Badawy, A.A.-B. and Morgan, C.J. Tryptophan metabolites as potent inhibitors of aldehyde dehydrogenase activity and potential alcoholism-aversion therapeutic agents. *Int. Congr. Ser.* **1304**, 344-351 (2007).
2. Narui, K., Noguchi, N., Saito, A., *et al.* Anti-infectious activity of tryptophan metabolites in the L-tryptophan-L-kynurenine pathway. *Biol. Pharm. Bull.* **32(1)**, 41-44 (2009).
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).

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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