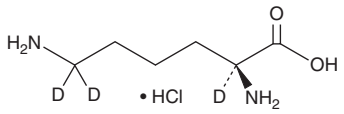
PRODUCT INFORMATION

L-Lysine-d_3 (hydrochloride)

Item No. 34844

CAS Registry No.: 2330878-43-6
Formal Name: L-lysine-2,6,6-d_3, monohydrochloride
MF: $C_6H_{11}D_3N_2O_2 \bullet HCl$
FW: 185.7
Chemical Purity: ≥98% (L-lysine)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_3); ≤1% d_0
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

L-Lysine-d_3 (hydrochloride) is intended for use as an internal standard for the quantification of L-lysine 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).

Description

L-Lysine is an essential amino acid.[1] It is catabolized *via* the saccharopine pathway to produce acetyl-coenzyme A (acetyl-CoA; Item No. 16160) in liver mitochondria. L-Lysine is also a precursor in the biosynthesis of L-carnitine (Item No. 21489), a conditionally essential nutrient that has roles in energy production and fatty acid metabolism.[2] L-Lysine (400 mg/kg per day) reduces viral shedding in cats latently infected with feline herpesvirus type 1 (FHV-1).[3] Administration of an L-lysine-deficient diet increases fecal pellet excretion induced by restraint stress, indicating increases in anxiety, in rats.[4] Formulations containing L-lysine have been used as dietary supplements.

References

1. Leandro J., and Houten, S.M. Saccharopine, a lysine degradation intermediate, is a mitochondrial toxin. *J. Cell Biol.* **218(2)**, 391-392 (2019).
2. Flanagan, J.L., Simmons, P.A., Vehige, J., *et al.* Role of carnitine in disease. *Nutr. Metab.* **7(30)**, (2010).
3. Maggs, D.J., Nasisse, M.P., and Kass, P.H. Efficacy of oral supplementation with L-lysine in cats latently infected with feline herpesvirus. *Am. J. Vet. Res.* **64(1)**, 37-42 (2003).
4. Smriga, M., Kameishi, M., Uneyama, H., *et al.* Dietary L-lysine deficiency increases stress-induced anxiety and fecal excretion in rats. *J. Nutr.* **132(12)**, 3744-3746 (2002).

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