

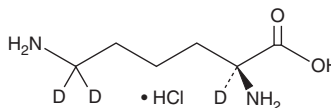
# PRODUCT INFORMATION



## L-Lysine-d<sub>3</sub> (hydrochloride)

Item No. 34844

**CAS Registry No.:** 2330878-43-6  
**Formal Name:** L-lysine-2,6,6-d<sub>3</sub>, monohydrochloride  
**MF:** C<sub>6</sub>H<sub>11</sub>D<sub>3</sub>N<sub>2</sub>O<sub>2</sub> • HCl  
**FW:** 185.7  
**Chemical Purity:** ≥98% (L-lysine)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>3</sub>); ≤1% d<sub>0</sub>  
**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-Lysine-d<sub>3</sub> (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.<sup>1</sup> 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.<sup>2</sup> L-Lysine (400 mg/kg per day) reduces viral shedding in cats latently infected with feline herpesvirus type 1 (FHV-1).<sup>3</sup> Administration of an L-lysine-deficient diet increases fecal pellet excretion induced by restraint stress, indicating increases in anxiety, in rats.<sup>4</sup> 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).

#### 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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/06/2022

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM