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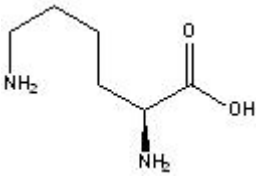
# TECHNICAL INFORMATION

Catalog Number: 190224, 194696
**L-Lysine, free base**

**Structure:**




**Molecular Formula:** $C_6H_{14}N_2O_2$

**Molecular Weight:** 146.2

**CAS #** 56-87-1

**Synonym:** L-216-Diaminohexanoic acid; Lys; K; (S)-2,6-Diaminocaproic acid

**Physical Description:** Off-white crystalline powder

**Solubility:** Soluble in 0.1N hydrochloride (50 mg/ ml-clear, colorless solution) or water (100 mg/ml - clear, colorless solution)

**Description:** An essential amino acid. It is one of three amino acids with basic side chains, and is hydrophilic. It contains an N-butyl amino group in the side chain, and this moiety is protonated at physiological pH. In addition, L-lysine is one of the two amino acids that are degraded to give ketone bodies (a ketogenic amino acid). Lysine is degraded *in vivo* to give acetoacetyl CoA via an initial transamination with alpha-ketoglutarate.[1,2,5]

L-lysine has been used with cultured human osteoblasts to study cell proliferation.[6] Exogenous L-lysine has been utilized in Nocardia lactamdurans to enhance cephamycin C production.[4] The inhibition of the chymotrypsin-like activity of a proteasome preparation by various amino acids, including lysine, has been investigated.[3]

**Availability:**

| Catalog Number | Description | Size |
|---|---|---|
| 190224 | L-Lysine, free base | 5 g<br>25 g<br>100 g |
| 194696 | L-Lysine, free base, cell culture reagent | 5 g<br>25 g<br>100 g |

Also Available:

| Catalog Number | Description | Size |
|---|---|---|
| 102218 | L-Lysine Monohydrochloride | 500 g<br>1 kg<br>5 kg |

| | | |
|---|---|---|
| 194697 | L-Lysine Monohydrochloride, cell culture reagent | 100 g<br>500 g<br>1 kg |
| 102220 | L-Lysine Dihydrochloride | 25 g<br>100 g |
| 102212 | D-Lysine, Monohydrochloride, purity not less than 99% | 1 g<br>5 g<br>10 g<br>25 g |
| 151572 | D-Lysine, Monohydrochloride, purity approximately 99% | 1 g<br>5 g<br>10 g<br>25 g |
| 102214 | DL-Lysine, Monohydrochloride | 25 g<br>100 g<br>1 kg |
| 102213 | DL-Lysine, Dihydrochloride | 25 g |
| 191281 | Lysine-Agarose | 5 ml<br>50 ml |

**References:**


– *Merck Index*, **12th Ed.**, No. 5667.
– Devlin, T.M. (ed.), *Textbook of Biochemistry with Clinical Correlations*, 5th Ed., Wiley-Liss: NY, NY, pp. 97, 635, 812, 815 (2002).
– Hamel, F.G., et al., "Inhibition of proteasome activity by selected amino acids." *Metabolism*, **v. 52(7)**, 810-814 (2003).
– Leitao, A.L., et al., "Effect of exogenous lysine on the expression of early cephamycin C biosynthetic genes and antibiotic production in Nocardia lactamdurans MA4213." *Appl. Microbiol. Biotechnol*., **v. 56(5-6)**, 670-675 (2001).
– Stryer, L., Freeman, W.H., *Biochemistry*, 3rd Ed., NY, NY, pp. 19-20 (1988).
– Torricelli, P., et al., "L-Arginine and L-lysine stimulation on cultured human osteoblasts." *Biomed. Pharmacother.*, **v. 56(10)**, 492-497 (2002).