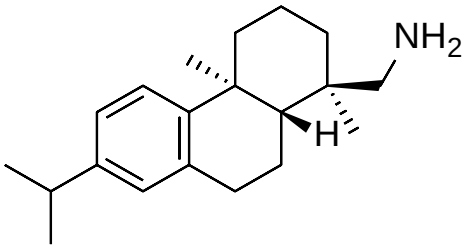
Product data sheet

MedKoo Cat#: 561542 Name: Leelamine free base CAS: 1446-61-3 (free base) Chemical Formula: $C_{20}H_{31}N$ Exact Mass: 285.2457 Molecular Weight: 285.475	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
Leelamine, also known as NSC-2955, is a selective and potent inducer of hepatic cytochrome P450 2B activity. It is also an inhibitor of intracellular cholesterol transport.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	30.0	105.09
DMSO	65.0	227.69
Ethanol	100.0	350.29
Ethanol:PBS (pH 7.2) (1:3)	0.25	0.88

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.50 mL	17.52 mL	35.03 mL
5 mM	0.70 mL	3.50 mL	7.01 mL
10 mM	0.35 mL	1.75 mL	3.50 mL
50 mM	0.07 mL	0.35 mL	0.70 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Jung YY, Um JY, Sethi G, Ahn KS. Potential Application of Leelamine as a Novel Regulator of Chemokine-Induced Epithelial-to-Mesenchymal Transition in Breast Cancer Cells. Int J Mol Sci. 2022 Aug 30;23(17):9848. doi: 10.3390/ijms23179848. PMID: 36077241; PMCID: PMC9456465.
2. Sin ZW, Mohan CD, Chinnathambi A, Govindasamy C, Rangappa S, Rangappa KS, Jung YY, Ahn KS. Leelamine Exerts Antineoplastic Effects in Association with Modulating Mitogen-Activated Protein Kinase Signaling Cascade. Nutr Cancer. 2022;74(9):3375-3387. doi: 10.1080/01635581.2022.2059092. Epub 2022 May 17. PMID: 35579498.

In vivo study

1. Singh KB, Hahm ER, Singh SV. Leelamine suppresses cMyc expression in prostate cancer cells in vitro and inhibits prostate carcinogenesis in vivo. J Cancer Metastasis Treat. 2021;7:16. doi: 10.20517/2394-4722.2021.08. Epub 2021 Mar 26. PMID: 34660908; PMCID: PMC8513473.

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2. Singh KB, Hahm ER, Pore SK, Singh SV. Leelamine Is a Novel Lipogenesis Inhibitor in Prostate Cancer Cells In Vitro and In Vivo. Mol Cancer Ther. 2019 Oct;18(10):1800-1810. doi: 10.1158/1535-7163.MCT-19-0046. Epub 2019 Aug 8. PMID: 31395683; PMCID: PMC6774899.

7. Bioactivity

Biological target:

Leelamine is a weak agonist of cannabinoid receptors CB1 and CB2. Leelamine also inhibits pyruvate dehydrogenase kinases (PDKs).

In vitro activity

LEE (leelamine) suppressed expression of CXCR7 and CXCR4 both at the protein and mRNA levels, and showed inhibitory effects on these chemokines even after stimulation by CXCL12 ligand. In addition, LEE also reduced the level of MnSOD and inhibited the EMT process to attenuate the invasion and migration of breast cancer cells.

Reference: Int J Mol Sci. 2022 Aug 30;23(17):9848. https://pubmed.ncbi.nlm.nih.gov/36077241/

In vivo activity

A trend for a decrease in expression level of cMyc protein was discernible in 22Rv1 xenografts from LLM (leelamine)-treated mice compared with control mice. The LLM treatment (10 mg/kg body weight, 5 times/week) was well-tolerated by Hi-Myc transgenic mice.

Reference: J Cancer Metastasis Treat. 2021;7:16. https://pubmed.ncbi.nlm.nih.gov/34660908/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.