

# Product data sheet



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| MedKoo Cat#: 532772<br>Name: LLY-283<br>CAS: 2040291-27-6<br>Chemical Formula: C <sub>17</sub> H <sub>18</sub> N <sub>4</sub> O <sub>4</sub><br>Exact Mass: 342.1328<br>Molecular Weight: 342.355 |   |
| Product supplied as:  | Powder  |
| Purity (by HPLC):   | ≥ 98%   |
| Shipping conditions   | Ambient temperature   |
| Storage conditions:   | Powder: -20°C 3 years; 4°C 2 years.<br>In solvent: -80°C 3 months; -20°C 2 weeks. |

## 1. Product description:

LLY-283 is a potent and selective SAM-competitive chemical probe for PRMT5 (protein arginine methyltransferase 5).

## 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 |
|---------|-----------------|--------------|
| DMSO    | 84.33           | 246.33       |
| Ethanol | 31.5            | 92.01        |
| Water   | 4.29            | 12.52        |

## 4. Stock solution preparation table:

| Concentration / Solvent Volume / Mass | 1 mg    | 5 mg     | 10 mg    |
|---------------------------------------|---------|----------|----------|
| 1 mM                                  | 2.92 mL | 14.60 mL | 29.21 mL |
| 5 mM                                  | 0.58 mL | 2.92 mL  | 5.84 mL  |
| 10 mM                                 | 0.29 mL | 1.46 mL  | 2.92 mL  |
| 50 mM                                 | 0.06 mL | 0.29 mL  | 0.58 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. Zhao B, Zhang D, Sun Y, Lei M, Zeng P, Wang Y, Hong Y, Jiao Y, Cai C. Explore the effect of LLY-283 on the ototoxicity of auditory cells caused by cisplatin: A bioinformatic analysis based on RNA-seq. *J Clin Lab Anal.* 2022 Feb;36(2):e24176. doi: 10.1002/jcla.24176. Epub 2022 Jan 8. PMID: 34997776; PMCID: PMC8842247.

2. Sachamitr P, Ho JC, Ciamponi FE, Ba-Alawi W, Coutinho FJ, Guilhamon P, Kushida MM, Cavalli FMG, Lee L, Rastegar N, Vu V, Sánchez-Osuna M, Coulombe-Huntington J, Kanshin E, Whetstone H, Durand M, Thibault P, Hart K, Mangos M, Veyhl J, Chen W, Tran N, Duong BC, Aman AM, Che X, Lan X, Whitley O, Zaslaver O, Barsyte-Lovejoy D, Richards LM, Restall I, Caudy A, Röst HL, Bonday ZQ, Bernstein M, Das S, Cusimano MD, Spears J, Bader GD, Pugh TJ, Tyers M, Lupien M, Haibe-Kains B, Artee Luchman H, Weiss S, Massirer KB, Prinos P, Arrowsmith CH, Dirks PB. PRMT5 inhibition disrupts splicing and stemness in glioblastoma. *Nat Commun.* 2021 Feb 12;12(1):979. doi: 10.1038/s41467-021-21204-5. PMID: 33579912; PMCID: PMC7881162.

### In vivo study

1. Liu C, Tang D, Zheng Z, Lu X, Li W, Zhao L, He Y, Li H. A PRMT5 inhibitor protects against noise-induced hearing loss by alleviating ROS accumulation. *Ecotoxicol Environ Saf.* 2022 Sep 15;243:113992. doi: 10.1016/j.ecoenv.2022.113992. Epub 2022 Aug 19. PMID: 35994911.

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2. Bonday ZQ, Cortez GS, Grogan MJ, Antonysamy S, Weichert K, Bocchinfuso WP, Li F, Kennedy S, Li B, Mader MM, Arrowsmith CH, Brown PJ, Eram MS, Szewczyk MM, Barsyte-Lovejoy D, Vedadi M, Guccione E, Campbell RM. LLY-283, a Potent and Selective Inhibitor of Arginine Methyltransferase 5, PRMT5, with Antitumor Activity. ACS Med Chem Lett. 2018 Apr 23;9(7):612-617. doi: 10.1021/acsmchemlett.8b00014. PMID: 30034588; PMCID: PMC6047023.

## 7. Bioactivity

### Biological target:

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LLY-283 is a potent, selective and oral protein arginine methyltransferase 5 (PRMT5) inhibitor, with an IC<sub>50</sub> of 22 nM and a K<sub>d</sub> of 6 nM for PRMT5:MEP50 complex, and shows antitumor activity.

### In vitro activity

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ROS experiments confirmed that LLY-283 could rescue cisplatin-induced oxidative damage to auditory cells. TUNEL experiments confirmed that LLY-283 could protect cisplatin-induced apoptosis of auditory cells. Meanwhile, LLY-283 could inhibit the expression of PRMT5 in auditory cells induced by cisplatin.

Reference: J Clin Lab Anal. 2022 Feb;36(2):e24176. <https://pubmed.ncbi.nlm.nih.gov/34997776/>

### In vivo activity

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The aim of this study was to investigate the effect of LLY-283, a selective inhibitor of protein arginine methyltransferase 5 (PRMT5), on a noise-induced hearing loss (NIHL) mouse model and to identify a potential target for a therapeutic intervention against NIHL. LLY-283 pretreatment before noise exposure notably decreased 4-HNE and caspase-3/7 levels in the cochlear HCs.

Reference: Ecotoxicol Environ Saf. 2022 Sep 15;243:113992. <https://pubmed.ncbi.nlm.nih.gov/35994911/>

*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.*