

Product data sheet



MedKoo Cat#: 563165 Name: JW642 CAS: 1416133-89-5 Chemical Formula: C ₂₁ H ₂₀ F ₆ N ₂ O ₃ Exact Mass: 462.1378 Molecular Weight: 462.3924	
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:

JW642 is a selective monoacylglycerol lipase (MAGL) inhibitor.

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	11.0	23.79
DMSO	60.81	131.51
Ethanol	35.08	75.87
Ethanol:PBS (pH 7.2) (1:2)	0.3	0.65

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.16 mL	10.81 mL	21.63 mL
5 mM	0.43 mL	2.16 mL	4.33 mL
10 mM	0.22 mL	1.08 mL	2.16 mL
50 mM	0.04 mL	0.22 mL	0.43 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

TBD

In vivo study

1. Hattori Y, Seki C, Maeda J, Nagai Y, Aoyama K, Zhang MR, Minamimoto T, Koike T, Higuchi M. Quantification of monoacylglycerol lipase and its occupancy by an exogenous ligand in rhesus monkey brains using [18F]T-401 and PET. *J Cereb Blood Flow Metab.* 2022 Apr;42(4):656-666. doi: 10.1177/0271678X211058285. Epub 2021 Nov 2. PMID: 34727758; PMCID: PMC8943622.

2. Mori W, Hatori A, Zhang Y, Kurihara Y, Yamasaki T, Xie L, Kumata K, Hu K, Fujinaga M, Zhang MR. Radiosynthesis and evaluation of a novel monoacylglycerol lipase radiotracer: 1,1,1,3,3,3-hexafluoropropan-2-yl-3-(1-benzyl-1H-pyrazol-3-yl)azetidene-1-[11C]carboxylate. *Bioorg Med Chem.* 2019 Aug 15;27(16):3568-3573. doi: 10.1016/j.bmc.2019.06.037. Epub 2019 Jun 29. PMID: 31278005.

7. Bioactivity

Biological target:

Product data sheet



JW 642 is a potent inhibitor of monoacylglycerol lipase (MAGL) that displays IC₅₀ values of 7.6, 14, and 3.7 nM for inhibition of MAGL in mouse, rat, and human brain membranes, respectively.

In vitro activity

TBD

In vivo activity

The pretreatment of monkeys with JW642 resulted in a dose-dependent reduction of [¹⁸F]T-401 retentions in the brain, and V_T . Lassen's graphical analysis indicated a V_{ND} of 0.69 mL/cm³ and a plasma JW642 concentration of 126 ng/mL for inhibiting the specific binding by 50%.

Reference: J Cereb Blood Flow Metab. 2022 Apr;42(4):656-666. <https://pubmed.ncbi.nlm.nih.gov/34727758/>

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.