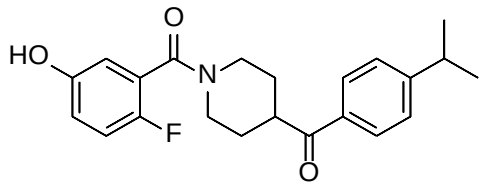
Product data sheet

MedKoo Cat#: 574192 Name: MAGL Inhibitor Compound 23 CAS: 2324160-91-8 Chemical Formula: $C_{22}H_{24}FNO_3$ Exact Mass: 369.174 Molecular Weight: 369.4364	
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:
MAGL Inhibitor Compound 23 is an inhibitor of monoacylglycerol lipase (MAGL). It is selective for MAGL over cannabinoid receptor 1 (CB1), CB2, fatty acid amide hydrolase (FAAH), α/β-hydrolase domain-containing protein 6 (ABHD6), and ABHD12. MAGL inhibitor compound 23 inhibits the growth of HCT116, MDA-MB-231, Caov-3, OVCAR-3, and SKOV3 cells but not MRC5 cells. It increases the levels of 2-arachidonoyl glycerol (2-AG) in mouse brain and plasma when administered at a dose of 50 mg/kg.

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	25.0	67.67
DMF:PBS (pH 7.2) (1:6)	0.14	0.38
DMSO	41.25	111.66
Ethanol	2.5	6.77

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.71 mL	13.53 mL	27.07 mL
5 mM	0.54 mL	2.71 mL	5.41 mL
10 mM	0.27 mL	1.35 mL	2.71 mL
50 mM	0.05 mL	0.27 mL	0.54 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. Granchi C, Lapillo M, Glasmacher S, Bononi G, Licari C, Poli G, El Boustani M, Caligiuri I, Rizzolio F, Gertsch J, Macchia M, Minutolo F, Tuccinardi T, Chicca A. Optimization of a Benzoylpiperidine Class Identifies a Highly Potent and Selective Reversible Monoacylglycerol Lipase (MAGL) Inhibitor. J Med Chem. 2019 Feb 28;62(4):1932-1958. doi: 10.1021/acs.jmedchem.8b01483. Epub 2019 Feb 11. PMID: 30715876.

In vivo study

TBD

7. Bioactivity
Biological target:

Product data sheet

MAGL-IN-1 is a potent, selective, reversible and competitive inhibitor of MAGL, with an IC_{50} of 80 nM. MAGL-IN-1 exhibits anti-proliferative effects against human breast, colorectal, and ovarian cancer cells.

In vitro activity

In the present study, structural optimization of a previously developed class of MAGL inhibitors led to the identification of compound 23, which proved to be a very potent reversible MAGL inhibitor (IC_{50} = 80 nM), selective for MAGL over the other main components of the endocannabinoid system, endowed of a promising antiproliferative activity in a series of cancer cell lines and able to block MAGL both in cell-based as well as in vivo assays.

Reference: J Med Chem. 2019 Feb 28;62(4):1932-1958. https://pubmed.ncbi.nlm.nih.gov/30715876/

In vivo activity

TBD

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.