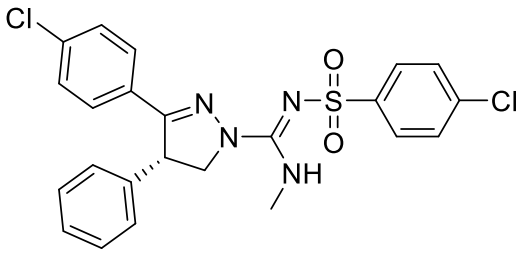
Product data sheet

MedKoo Cat#: 329689 Name: Ibipinabant CAS: 464213-10-3 (S-isomer) Chemical Formula: $C_{23}H_{20}Cl_2N_4O_2S$ Exact Mass: 486.0684 Molecular Weight: 487.399	
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:
Ibipinabant, also known as BMS-646256, JD-5001 and SLV-319, is a potent and highly selective CB1 antagonist. It has potent anorectic effects in animals, and was researched for the treatment of obesity, although CB1 antagonists as a class have now fallen out of favour as potential anorectics following the problems seen with rimonabant, and so ibipinabant is now only used for laboratory research, especially structure-activity relationship studies into novel CB1 antagonists.

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	61.55
DMSO	30.0	61.55
Ethanol	30.0	61.55
Ethanol:PBS (pH 7.2) (1:2)	0.25	0.51

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.05 mL	10.26 mL	20.52 mL
5 mM	0.41 mL	2.05 mL	4.10 mL
10 mM	0.21 mL	1.03 mL	2.05 mL
50 mM	0.04 mL	0.21 mL	0.41 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. Schirris TJ, Ritschel T, Herma Renkema G, Willems PH, Smeitink JA, Russel FG. Mitochondrial ADP/ATP exchange inhibition: a novel off-target mechanism underlying ibipinabant-induced myotoxicity. Sci Rep. 2015 Sep 29;5:14533. doi: 10.1038/srep14533. PMID: 26416158; PMCID: PMC4586513.

In vivo study

1. Rohrbach K, Thomas MA, Glick S, Fung EN, Wang V, Watson L, Gregory P, Antel J, Pelleymounter MA. Ibipinabant attenuates β-cell loss in male Zucker diabetic fatty rats independently of its effects on body weight. Diabetes Obes Metab. 2012 Jun;14(6):555-64. doi: 10.1111/j.1463-1326.2012.01563.x. Epub 2012 Feb 24. PMID: 22268426.

7. Bioactivity
Biological target:

Product data sheet

Ibipinabant (SLV319) is a potent, selective and orally active antagonist of cannabinoid CB1 receptor, with a Ki of 7.8 nM.

In vitro activity

Already after 24 hours of exposure to increasing concentrations of ibipinabant, cell viability was significantly ($P=1.61\cdot10^{-7}$) decreased to 73 ± 5% at the highest concentration tested (100 μM, Fig. 1A). After 48 hours of exposure only 33 ± 4% of the cells remained viable at this concentration (Fig. 1B).

Reference: Sci Rep. 2015 Sep 29;5:14533. https://pubmed.ncbi.nlm.nih.gov/26416158/

In vivo activity

At the end of the study, vehicle-treated ZDF (Zucker diabetic fatty) rats were severely hyperglycaemic and showed signs of β-cell decline, including dramatic reductions in unfasted insulin levels. Ibipinanbant (10 mg/kg) reduced the following relative to vehicle controls: fasting glucose (-61%), glucose excursion area under the curve (AUC) in an oral glucose tolerance test (OGTT, -44%) and HbA1c (-50%). Furthermore, non-fasting insulin, islet area and islet insulin content were all increased (71, 40 and 76%, respectively) relative to vehicle controls by the end of the study.

Reference: Diabetes Obes Metab. 2012 Jun;14(6):555-64. https://pubmed.ncbi.nlm.nih.gov/22268426/

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.