

Product data sheet



MedKoo Cat#: 530440 Name: URB602 CAS#: 565460-15-3 Chemical Formula: C ₁₉ H ₂₁ NO ₂ Exact Mass: 295.1572 Molecular Weight: 295.382	
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:

URB602 is a selective inhibitor of monoglycerol lipase (MGL), exhibiting an IC₅₀ of 28 μM for the rat brain enzyme. Pretreatment with the monoacylglycerol lipase inhibitor URB602 protects from the long-term consequences of neonatal hypoxic-ischemic brain injury in rats. URB602 inhibits monoacylglycerol lipase and selectively blocks 2-arachidonoylglycerol degradation in intact brain slices.

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	101.56
DMSO	63.0	213.28
DMSO:PBS (pH 7.2) (1:1)	0.25	0.85
Ethanol	34.5	116.80

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.39 mL	16.93 mL	33.85 mL
5 mM	0.68 mL	3.39 mL	6.77 mL
10 mM	0.34 mL	1.69 mL	3.39 mL
50 mM	0.07 mL	0.34 mL	0.68 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. Li C, Vilches-Flores A, Zhao M, Amiel SA, Jones PM, Persaud SJ. Expression and function of monoacylglycerol lipase in mouse β-cells and human islets of Langerhans. *Cell Physiol Biochem*. 2012;30(2):347-58. doi: 10.1159/000339069. Epub 2012 Jun 26. PMID: 22739267.

In vivo study

1. Carloni S, Alonso-Alconada D, Girelli S, Duranti A, Tontini A, Piomelli D, Hilario E, Alvarez A, Balduini W. Pretreatment with the monoacylglycerol lipase inhibitor URB602 protects from the long-term consequences of neonatal hypoxic-ischemic brain injury in rats. *Pediatr Res*. 2012 Oct;72(4):400-6. doi: 10.1038/pr.2012.91. Epub 2012 Jul 20. PMID: 22821058.
2. King AR, Duranti A, Tontini A, Rivara S, Rosengarth A, Clapper JR, Astarita G, Geaga JA, Luecke H, Mor M, Tarzia G, Piomelli D. URB602 inhibits monoacylglycerol lipase and selectively blocks 2-arachidonoylglycerol degradation in intact brain slices. *Chem Biol*. 2007 Dec;14(12):1357-65. doi: 10.1016/j.chembiol.2007.10.017. PMID: 18096504; PMCID: PMC2225625.

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7. Bioactivity

Biological target:

URB602 is a selective monoacylglycerol lipase (MGL) inhibitor, which inhibits rat brain MGL with IC₅₀ of 28±4 μM through a noncompetitive mechanism.

In vitro activity

Blockade of MGL activity with the pharmacological inhibitor URB602 led to increased [Ca²⁺]_i and enhanced insulin secretion from MIN6 β-cells, and MGL inhibition also elevated insulin and glucagon secretion from isolated human islets in vitro.

Reference: Cell Physiol Biochem. 2012;30(2):347-58. <https://pubmed.ncbi.nlm.nih.gov/22739267/>

In vivo activity

These experiments revealed a significant reduction of brain injury in rats when URB602 was administered at doses of 12.5 μg and 25 μg (Figure 1a,b) into the right ventricle, ipsilateral to the occluded carotid, or when a dose of 50 μg was injected into the left ventricle, contralateral to the occluded carotid (Figure 1c).

Reference: Pediatr Res. 2012 Oct;72(4):400-6. <https://pubmed.ncbi.nlm.nih.gov/22821058/>

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.