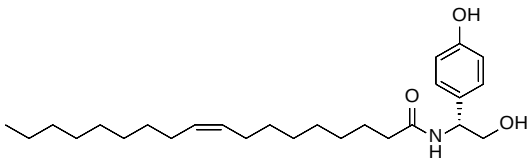
Product data sheet

MedKoo Cat#: 574781 Name: OMDM-2 CAS: 616884-63-0 Chemical Formula: $C_{26}H_{43}NO_3$ Exact Mass: 417.3243 Molecular Weight: 417.634	
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:
OMDM-2 is an endocannabinoid analog specifically designed to be a potent and selective inhibitor of the cellular uptake of AEA.

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	71.83
DMSO:PBS (pH 7.2) (1:1)	0.5	1.20
Ethanol	30.0	71.83

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	2.39 mL	11.97 mL	23.94 mL
5 mM	0.48 mL	2.39 mL	4.79 mL
10 mM	0.24 mL	1.20 mL	2.39 mL
50 mM	0.05 mL	0.24 mL	0.48 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. Price TJ, Patwardhan AM, Flores CM, Hargreaves KM. A role for the anandamide membrane transporter in TRPV1-mediated neurosecretion from trigeminal sensory neurons. Neuropharmacology. 2005 Jul;49(1):25-39. doi: 10.1016/j.neuropharm.2005.01.031. Epub 2005 Apr 1. PMID: 15992578; PMCID: PMC1892309.

In vivo study

1. Seillier A, Giuffrida A. The cannabinoid transporter inhibitor OMDM-2 reduces social interaction: Further evidence for transporter-mediated endocannabinoid release. Neuropharmacology. 2018 Mar 1;130:1-9. doi: 10.1016/j.neuropharm.2017.11.032. Epub 2017 Nov 21. PMID: 29169961.
2. de Lago E, Ligresti A, Ortar G, Morera E, Cabranes A, Pryce G, Bifulco M, Baker D, Fernandez-Ruiz J, Di Marzo V. In vivo pharmacological actions of two novel inhibitors of anandamide cellular uptake. Eur J Pharmacol. 2004 Jan 26;484(2-3):249-57. doi: 10.1016/j.ejphar.2003.11.027. PMID: 14744610.

7. Bioactivity
Biological target:
OMDM-2 is a potent, selective and metabolically stable inhibitor of anandamide cellular uptake (ACU), with a K_i of 3.0 μM.

Product data sheet

In vitro activity

Application of the AMT inhibitors OMDM-2 or VDM-11 significantly reduced the potency and efficacy of AEA-, NADA- and capsaicin-evoked CGRP release. Moreover OMDM-2 (IC50 values ranging from 6.4-9.6 microM) and VDM-11 (IC50 values ranging from 5.3-11 microM) inhibited CGRP release evoked by EC80 concentrations of AEA, NADA and CAP and these values were consistent with IC50s obtained for inhibition of uptake.

Reference: Neuropharmacology. 2005 Jul;49(1):25-39. https://pubmed.ncbi.nlm.nih.gov/15992578/

In vivo activity

OMDM-2 and, to a lesser extent, VDM-11 (5 mg/kg, i.p.) enhanced the motor-inhibitory effects of a noneffective dose (2 mg/kg, i.p.) of anandamide, while OMDM-1 did not. In a typical test of acute analgesia, OMDM-2 and VDM-11 (1-10 mg/kg, i.p.), but not OMDM-1, significantly enhanced the time spent by rats on a "hot plate." Thus, this study determined if, like other previously developed anandamide reuptake inhibitors, OMDM-1 and OMDM-2 inhibit spasticity in an animal model of multiple sclerosis-the chronic relapsing experimental allergic encephalomyelitis in mice. As previously shown with a higher dose of VDM-11, both novel compounds (5 mg/kg, i.v.) significantly reduced spasticity of the hindlimb in mice with chronic relapsing experimental allergic encephalomyelitis.

Reference: Eur J Pharmacol. 2004 Jan 26;484(2-3):249-57. https://pubmed.ncbi.nlm.nih.gov/14744610/