

Product data sheet



MedKoo Cat#: 562370 Name: OBA-09 CAS: 856095-68-6 Chemical Formula: C ₁₀ H ₈ O ₅ Exact Mass: 208.0372 Molecular Weight: 208.169		
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:

OBA-09 is a neuroprotective agent. It acts by preventing lipid peroxidation, ROS production and causing the recovery of NAD and ATP concentrations to near basal levels.

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	144.11
DMSO	70.0	336.27
Ethanol	80.0	384.30
PBS (pH 7.2)	2.7	12.97

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	4.80 mL	24.02 mL	48.04 mL
5 mM	0.96 mL	4.80 mL	9.61 mL
10 mM	0.48 mL	2.40 mL	4.80 mL
50 mM	0.10 mL	0.48 mL	0.96 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. da Silva MP, Silva VO, Pasetto S, Ando-Suguimoto ES, Kawamoto D, Mata GMSC, Murata RM, Mayer MPA, Chen C. Aggregatibacter actinomycetemcomitans Outer Membrane Proteins 29 and 29 Parologue Induce Evasion of Immune Response. Front Oral Health. 2022 Feb 3;3:835902. doi: 10.3389/froh.2022.835902. PMID: 35187533; PMCID: PMC8851312.
2. Lee HK, Kim SW, Jin Y, Kim ID, Park JY, Yoon SH, Lee JK. Anti-inflammatory effects of OBA-09, a salicylic acid/pyruvate ester, in the postischemic brain. Brain Res. 2013 Aug 28;1528:68-79. doi: 10.1016/j.brainres.2013.06.026. Epub 2013 Jul 11. PMID: 23850644.

In vivo study

1. Lee HK, Kim SW, Jin Y, Kim ID, Park JY, Yoon SH, Lee JK. Anti-inflammatory effects of OBA-09, a salicylic acid/pyruvate ester, in the postischemic brain. Brain Res. 2013 Aug 28;1528:68-79. doi: 10.1016/j.brainres.2013.06.026. Epub 2013 Jul 11. PMID: 23850644.
2. Kim SW, Kim HJ, Shin JH, Kim ID, Lee JE, Han PL, Yoon SH, Lee JK. Robust protective effects of a novel multimodal neuroprotectant oxopropanoyloxy benzoic acid (a salicylic acid/pyruvate ester) in the postischemic brain. Mol Pharmacol. 2011 Feb;79(2):220-8. doi: 10.1124/mol.110.067520. Epub 2010 Oct 29. PMID: 21036874.

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7. Bioactivity

Biological target:

OBA-09, a simple ester of pyruvate and salicylic acid, is potent multi-modal neuroprotectant.

In vitro activity

The inductions of proinflammatory markers were also inhibited by OBA-09 in LPS-treated BV2 cells (a microglia cell line) and in LPS-treated-primary neutrophils, possibly due to the suppression of NF- κ B activity. Interestingly, the anti-inflammatory effect of OBA-09 was greater than that of equivalent co-treatment with pyruvate and salicylic acid.

Reference: Brain Res. 2013 Aug 28;1528:68-79. <https://pubmed.ncbi.nlm.nih.gov/23850644/>

In vivo activity

OBA-09 exhibited antioxidative effects in the postischemic brain, which was evidenced by remarkable reduction of lipid peroxidation and 4-hydroxy-2-nonenal staining in OBA-09-administered animals. High-performance liquid chromatography results demonstrated that OBA-09 was hydrolyzed to salicylic acid and pyruvate with $t(1/2) = 43$ min in serum and 4.2 h in brain parenchyma, indicating that antioxidative function of OBA-09 is executed by itself and also by salicylic acid after the hydrolysis. In addition to antioxidative function, OBA-09 exerts anti-excitotoxic and anti-Zn(2+)-toxic functions, which might be attributed to attenuation of ATP and nicotinamide adenine dinucleotide depletion and to the suppression of nuclear factor- κ B activity induction.

Reference: Mol Pharmacol. 2011 Feb;79(2):220-8. <https://pubmed.ncbi.nlm.nih.gov/21036874/>

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.