Data Sheet (Cat.No.T16371)

TargetMol

OBA-09

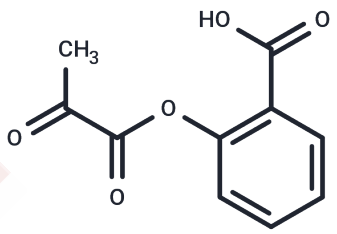
Chemical Properties

CAS No. : 856095-68-6

Formula: C10H8O5

Molecular Weight: 208.17

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.



Biological Description

Description	OBA-09 (2-oxopropanoyloxy benzoic acid) is a novel multimodal neuroprotectant synthesized as a hybrid of salicylic acid and pyruvate. Designed to synergize the anti-inflammatory properties of salicylic acid with the metabolic support and antioxidant capacity of pyruvate, OBA-09 combats ischemic brain injury effectively. It exhibits potent radical scavenging activity against superoxide, hydroxyl radicals, and hydrogen peroxide. Furthermore, it attenuates post-ischemic inflammation by inhibiting the NF-kB signaling pathway and the release of HMGB1. In stroke models, OBA-09 significantly reduces infarct volume and improves neurological scores.
Targets(IC50)	Others
In vitro	In cell-free assays, OBA-09 acted as a robust ROS scavenger, effectively neutralizing hydroxyl radicals (OH), superoxide anions (O2.-), and hydrogen peroxide (H2O2). In neuronal cultures, it inhibited the DNA binding activity of NF-kB and suppressed the degradation of IkB-alpha, leading to decreased expression of proinflammatory enzymes like iNOS and COX-2 [1][2].
In vivo	In a rat model of middle cerebral artery occlusion (MCAO), systemic administration of OBA-09 (50-100 mg/kg, intraperitoneal) significantly reduced brain infarct volume and improved neurological deficits. It effectively lowered the levels of proinflammatory cytokines (IL-1beta, TNF-alpha) and prevented the nucleocytoplasmic translocation and subsequent release of HMGB1 in the ischemic brain [1][2].

Solubility Information

Solubility	DMSO: 80 mg/mL (384.3 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 2.4 mg/mL (11.53 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.8038 mL	24.0188 mL	48.0377 mL
5 mM	0.9608 mL	4.8038 mL	9.6075 mL
10 mM	0.4804 mL	2.4019 mL	4.8038 mL
50 mM	0.0961 mL	0.4804 mL	0.9608 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Kim SW, et al. 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.
Lee HK, et, al. Anti-inflammatory effects of OBA-09, a salicylic acid/pyruvate ester, in the postischemic brain. Brain Res. 2013 Aug 28;1528:68-79.

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