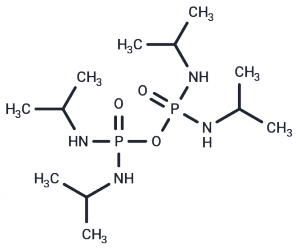
# Data Sheet (Cat.No.T86746)

TargetMol

## Iso-OMPA

### Chemical Properties



CAS No. : 513-00-8

Formula: C12H32N4O3P2

Molecular Weight: 342.36

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

### Biological Description

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|---|---|
| Description | Iso-OMPA (Tetraisopropyl pyrophosphoramide) is a selective, covalent, and irreversible butylcholinesterase (BuChE) inhibitor for studying BuChE-related diseases. |
| Targets(IC50) | Cholinesterase (ChE) |
| In vitro | Iso-OMPA exhibited $IC_{50}$ values of 694.7 μM (brain), 10.56 μM (liver), and 9.84 μM (muscle) for propionylthiocholine iodide (PSCh) in the brain, liver, and muscle tissues of the brown shrimp Penaeus aztecus, respectively [1].<br>For butyrylthiocholine iodide (BSCh), Iso-OMPA showed $IC_{50}$ values of 12.49 μM (liver) and 11.42 μM (muscle) in the liver and muscle tissues of P. aztecus, with corresponding Ki values of 0.2019 μM (liver) and 0.6612 μM (muscle) [1].<br>Iso-OMPA (100 μM, treated for 30 minutes) increased the sensitivity of isolated bronchial preparations from Homo sapiens to acetylcholine [2]. |
| In vivo | Iso-OMPA (0.6 and 1.9 mg/kg, subcutaneous injection, single dose) only slightly inhibited rat plasma cholinesterase (CarbE) activity at the low dose, while significantly inhibiting its activity at the high dose; however, no obvious inhibitory effect was observed on mouse plasma CarbE activity [3]. |

### Solubility Information

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|---|---|
| Solubility | DMSO: 80 mg/mL (233.67 mM),Sonication is recommended.<br>H2O: 8 mg/mL (23.37 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |
| In vivo Formulation | 10% DMSO+40% PEG300+5% Tween-80+45% Saline: 3.3 mg/mL (9.64 mM),Sonication is recommended.<br>*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 | 2.9209 mL | 14.6045 mL | 29.209 mL |
| 5 mM | 0.5842 mL | 2.9209 mL | 5.8418 mL |
| 10 mM | 0.2921 mL | 1.4605 mL | 2.9209 mL |
| 50 mM | 0.0584 mL | 0.2921 mL | 0.5842 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

Rodríguez-Fuentes G, et al. Characterization of cholinesterase activity from different tissues of Nile tilapia (Oreochromis niloticus). Mar Environ Res. 2004 Aug-Dec;58(2-5):505-9.
X Norel, et al. Degradation of acetylcholine in human airways: role of butyrylcholinesterase. Br J Pharmacol. 1993 Apr;108(4):914-9.
Z Grubic, et al. Iso-OMPA-induced potentiation of soman toxicity in rat correlates with the inhibition of plasma carboxylesterases. Arch Toxicol. 1988;62(5):398-9.



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