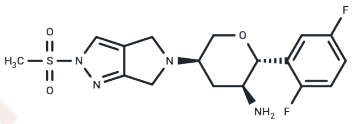
# Data Sheet (Cat.No.T2316)

TargetMol

## Omarigliptin

### Chemical Properties



CAS No. : 1226781-44-7

Formula: C17H20F2N4O3S

Molecular Weight: 398.43

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 | Omarigliptin is a potent and selective oral dipeptidyl peptidase 4 (DPP4) inhibitor with IC50 value of 1.6 nM. [3] |
| Targets(IC50) | Proteasome,DPP-4 |
| In vitro | **METHODS**: HrGECs cells were stimulated with 0, 1, 2, 10, 20, 100 and 200 μM Omarigliptin for 24 hours and cell viability was observed.<br>**RESULTS** When the concentration of Omarigliptin was 100 and 200 μM, the viability of HrGECs cells decreased significantly. [2] |
| In vivo | **METHODS**: A diabetic mouse model was established by treating with streptozotocin (STZ). Omarigliptin (2.5, 5 mg/kg, oral) was used to investigate the effects of Omarigliptin on glucose and insulin levels, cognitive dysfunction, oxidative stress, SIRT3 and FOXO3a expression, and NAD/NADH activity in STZ-induced diabetic mice.<br>**RESULTS** Omarigliptin can significantly reduce blood glucose in STZ-induced diabetic mice, accompanied by increased serum insulin levels; Omarigliptin improves cognitive dysfunction in STZ-induced diabetic mice; Omarigliptin treatment rescues GSH in the hippocampus in a dose-dependent manner; Omarigliptin induces increased SIRT3 expression and prevents FOXO3a acetylation. [1] |

### Solubility Information

| | |
|---|---|
| Solubility | DMSO: 50 mg/mL (125.49 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: 2 mg/mL (5.02 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 | 2.5099 mL | 12.5493 mL | 25.0985 mL |
| 5 mM | 0.502 mL | 2.5099 mL | 5.0197 mL |
| 10 mM | 0.251 mL | 1.2549 mL | 2.5099 mL |
| 50 mM | 0.0502 mL | 0.251 mL | 0.502 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

Li X, et al. Omarigliptin alleviates cognitive dysfunction in Streptozotocin-induced diabetic mouse. Bioengineered. 2022 Apr;13(4):9387-9396.
Du H, Wang S Omarigliptin Mitigates Lipopolysaccharide-Induced Neuroinflammation and Dysfunction of the Integrity of the Blood-Brain Barrier. ACS Chemical Neuroscience. 2020
Li L, et al. Omarigliptin ameliorated high glucose-induced nucleotide oligomerization domain-like receptor protein 3 (NLRP3) inflammasome activation through activating adenosine monophosphate-activated protein kinase α (AMPKα) in renal glomerular endothelial cells. Bioengineered. 2021 Dec;12(1):4805-4815.
Heo R, Kang M, Mun S Y, et al. Antidiabetic Omarigliptin Dilates Rabbit Aorta by Activating Kv Channels and the SERCA Pump. Fundamental & Clinical Pharmacology. 2022
Hattori S. Omarigliptin decreases inflammation and insulin resistance in a pleiotropic manner in patients with type 2 diabetes. Diabetol Metab Syndr. 2020 Mar 24;12:24.
Heo R, Kang M, Mun S Y, et al.Antidiabetic omarigliptin dilates rabbit aorta by activating voltage-dependent K+ channels and the sarco/endoplasmic reticulum Ca2+-ATPase pump.Fundamental & Clinical Pharmacology.2023, 37(1): 75-84.