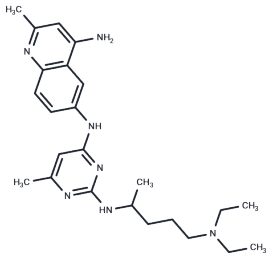
# Data Sheet (Cat.No.T40848)

TargetMol

NSC 23766

## Chemical Properties



CAS No. : 733767-34-5

Formula: C24H35N7

Molecular Weight: 421.58

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 | NSC 23766 is a Rac1 GTPase inhibitor that inhibits Rac1 activation by targeting guanine nucleotide exchange factors (GEFs), while it has no inhibitory effect on the closely related targets Cdc42 and RhoA, affecting the cell cycle and inhibiting cell proliferation in a dose-dependent manner. It also regulates endothelial NO synthase expression and endothelial function, and inhibits platelet aggregation and γ-secretase activity. NSC23766 competitively inhibits M2 muscarinic acetylcholine receptor (M2 mAChR)-induced Rac1 activation in neonatal rat cardiomyocytes. |
| Targets(IC50) | Rho,AChR,Ras |
| In vitro | Treatment of oocytes with NSC 23766 (200 μM) increased the percentage of oocytes with abnormal spindle morphology and significantly decreased the expression of p-MAPK protein. [2] |
| In vivo | Treatment of NOD mice with NSC 23766 (2.5 mg/kg/day, intraperitoneal injection) significantly slowed the onset of spontaneous diabetes in NOD mice and had no significant effect on the growth (body weight) of the mice. [1] |

## Solubility Information

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|---|---|
| Solubility | DMSO: 80 mg/mL (189.76 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 (7.83 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 | 2.372 mL | 11.8601 mL | 23.7203 mL |
| 5 mM | 0.4744 mL | 2.372 mL | 4.7441 mL |
| 10 mM | 0.2372 mL | 1.186 mL | 2.372 mL |
| 50 mM | 0.0474 mL | 0.2372 mL | 0.4744 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

Veluthakal R, et al. NSC23766, a Known Inhibitor of Tiam1-Rac1 Signaling Module, Prevents the Onset of Type 1 Diabetes in the NOD Mouse Model. Cell Physiol Biochem. 2016;39(2):760-7.
Song SJ, et al. Inhibition of Rac1 GTPase activity affects porcine oocyte maturation and early embryo development. Sci Rep. 2016 Oct 3;6:34415
Zhao L, et al. Rac1 modulates the formation of primordial follicles by facilitating STAT3-directed Jagged1, GDF9 and BMP15 transcription in mice. Sci Rep. 2016 Apr 6;6:23972
Wang Y, et al. Involvement of Rac1 signalling pathway in the development and maintenance of acute inflammatory pain induced by bee venom injection. Br J Pharmacol. 2016 Mar;173(5):937-50