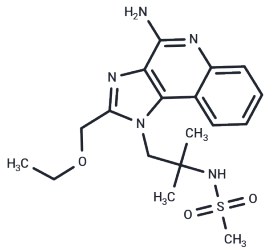
# Data Sheet (Cat.No.T14035)

TargetMol

## 3M-011

### Chemical Properties



CAS No. : 642473-62-9

Formula: C18H25N5O3S

Molecular Weight: 391.49

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 | 3M-011, a potent dual toll-like receptor TLR7/8 agonist and cytokine inducer, serves as a powerful adjuvant to radiotherapy, eliciting significant local and systemic immune responses. Additionally, it effectively inhibits H3N2 influenza viral replication in the nasal cavity and exhibits strong antitumor activity[1][2][3]. |
| Targets(IC50) | Influenza Virus,TLR |
| In vitro | 3M-011 (0-100 μg/mL; 24 hours; B16-F10 melanoma cells) treatment decreases B16-F10 melanoma cell counts[1]. In humans, 3M-011 activates TLR7 and TLR8, whereas in mice, it activates only TLR7[1]. NF-κB reporter is integrated into HEK-293 cells transfected with human or mouse TLR7 or TLR8, resulting in dose-dependent NF-κB-controlled luciferase activity, except with mouse TLR8. 3M-011 enhances natural killer (NK) cell cytotoxicity[1]. |
| In vivo | The treatment of scid/NOD mice bearing B16-F10 cells with 3M-011 (1 mg/kg; intravenous injection; every other day for six doses; female scid/NOD mice) demonstrates antitumor effects and induces a dose-dependent increase in serum concentrations of TNF-α and IFN-α/β. Additionally, wild-type C57BL/6 mice are subcutaneously injected with varying doses of 3M-011 (0.01 mg/kg, 0.1 mg/kg, 1 mg/kg, or 10 mg/kg)[1]. |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 2.5543 mL | 12.7717 mL | 25.5434 mL |
| 5 mM | 0.5109 mL | 2.5543 mL | 5.1087 mL |
| 10 mM | 0.2554 mL | 1.2772 mL | 2.5543 mL |
| 50 mM | 0.0511 mL | 0.2554 mL | 0.5109 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

Dumitru CD, et al. NK1.1+ cells mediate the antitumor effects of a dual Toll-like receptor 7/8 agonist in the disseminated B16-F10 melanoma model. Cancer Immunol Immunother. 2009 Apr;58(4):575-87.
Hammerbeck DM, et al. Administration of a dual toll-like receptor 7 and toll-like receptor 8 agonist protects against influenza in rats. Antiviral Res. 2007 Jan;73(1):1-11.
Schölch S, et al. Radiotherapy combined with TLR7/8 activation induces strong immune responses against gastrointestinal tumors. Oncotarget. 2015 Mar 10;6(7):4663-76.



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