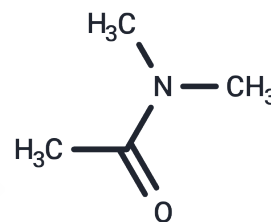


## N,N-Dimethylacetamide

## Chemical Properties

|                   |  |
|-------------------|--|
| CAS No. :         | 127-19-5   |
| Formula:          | C <sub>4</sub> H <sub>9</sub> NO   |
| Molecular Weight: | 87.12  |
| Storage:          | Powder: -20°C for 3 years<br>Actual storage temperature shall be subject to the COA. |



## Biological Description

|               |  |
|---------------|--|
| Description   | N,N-Dimethylacetamide (DMAC) is a drug excipient with blood-brain barrier permeability and anti-inflammatory activity, acting through inhibition of the NF-κB signaling pathway. N,N-Dimethylacetamide can reduce endotoxin-induced inflammatory responses in vivo.  |
| Targets(IC50) | NF-κB  |
| In vitro      | Methods: RAW 264.7 cells were treated with N,N-Dimethylacetamide (0-1000μM), and cell viability was determined by MTT assay.<br>Results: N,N-Dimethylacetamide inhibited the bactericidal activity of macrophages in RAW 264.7 cells.[1]   |
| In vivo       | Methods: N,N-Dimethylacetamide (0.2, 0.39, 0.78, 1.56, 3.1 mg/kg, intraperitoneal injection) was used to treat LPS-induced C57BL/6 embryonic day (E) 15.5 mice.<br>Results: N,N-Dimethylacetamide prevented LPS-triggered premature birth in C57BL/6 embryonic day (E) 15.5 mice in a concentration-dependent manner.[1] |

## Solubility Information

|            |  |
|------------|--|
| Solubility | DMSO: 80 mg/mL (918.27 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |
|------------|--|

### Preparing Stock Solutions

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|       | 1mg        | 5mg        | 10mg        |
|-------|------------|------------|-------------|
| 1 mM  | 11.4784 mL | 57.3921 mL | 114.7842 mL |
| 5 mM  | 2.2957 mL  | 11.4784 mL | 22.9568 mL  |
| 10 mM | 1.1478 mL  | 5.7392 mL  | 11.4784 mL  |
| 50 mM | 0.2296 mL  | 1.1478 mL  | 2.2957 mL   |

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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

Sundaram S, et al. N,N-dimethylacetamide regulates the proinflammatory response associated with endotoxin and prevents preterm birth. *Am J Pathol.* 2013 Aug;183(2):422-30.

Qin Z, Zou Y, Zhang Y, et al. Electrospun pullulan nanofiber loading zanthoxylum bungeanum essential oil/ $\beta$ -cyclodextrin inclusion complexes for active packaging. *International Journal of Biological Macromolecules.* 2022

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Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481