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# Produktinformation

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- Diagnostik & molekulare Diagnostik
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## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand


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# N,N-Dimethylacetamide

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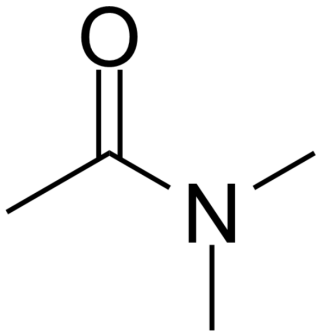
|---|---|
| **Cat. No.:** | HY-W042416 |
| **CAS No.:** | 127-19-5 |
| **Molecular Formula:** | $C_4H_9NO$ |
| **Molecular Weight:** | 87.12 |
| **Target:** | Biochemical Assay Reagents; NF-κB |
| **Pathway:** | Others; NF-κB |
| **Storage:** | Pure form -20°C 3 years<br>4°C 2 years |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : ≥ 100 mg/mL (1147.84 mM)

* "≥" means soluble, but saturation unknown.

## BIOLOGICAL ACTIVITY

**Description**

N,N-Dimethylacetamide (DMAc) is an organic solvent with blood-brain transmissibility and an FDA-approved drug excipient. N, N-dimethylacetamide exerts anti-inflammatory activity by inhibiting the NF-κB signaling pathway. N, N-dimethylacetamide can be used in studies of weight gain caused by a high-fat diet and neuroinflammation in Alzheimer's disease[1][2][3].

**In Vitro**

N,N-Dimethylacetamide (10-1000 μM, 24 h) inhibits the bactericidal activity of macrophages in RAW 264.7 cells[1].

N,N-Dimethylacetamide (0.1-10 mM, 2 h) inhibits Aβ-induced inflammation in microglia cell lines SIM-A9 and HMC3[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[2]

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| Cell Line: | SIM-A9, HMC3 |
| Concentration: | 0.1, 1, 10 mM |
| Incubation Time: | 2 h |
| Result: | Diminished iNOS production.<br>Decreased Aβ42 in a concentration-dependent manner.<br>Reduced APP and p-APP protein levels at 1 and 10 mM.<br>Increased IκBα levels in SIM-A9 cells with both 1 mM and 10 mM and in HMC3 cells with 10 mM. |

**In Vivo**

N,N-Dimethylacetamide (0.2, 0.39, 0.78, 1.56, 3.1 mg/kg, intraperitoneally administered) prevents endotoxin-induced preterm birth in C57BL/6 embryo-day (E) 15.5 mice. And the pups were protected from spontaneous abortion in a dose-dependent manner[1].

N,N-Dimethylacetamide (2.1 g/kg/day, intraperitoneally administered) attenuates the clinical and histological features of

DSS-induced colitis[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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|---|---|
| Animal Model: | LPS-Triggered PTB and Spontaneous Abortions mice[1] |
| Dosage: | 0.2, 0.39, 0.78, 1.56, 3,1 mg/kg |
| Administration: | i.p. Single dose |
| Result: | Attenuated the excessive endotoxin-triggered proinflammatory response that leads to preterm delivery. |

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|---|---|
| Animal Model: | DSS-induced colitis in C57Bl/6 mice[3] |
| Dosage: | 2.1 g/kg |
| Administration: | i.p. once a day for four days |
| Result: | Attenuated inflammation, crypt injury and ulceration. |

## REFERENCES


[1]. 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.

[2]. Wei ZH, et al. N,N-dimethylacetamide targets neuroinflammation in Alzheimer's disease in in-vitro and ex-vivo models. Sci Rep. 2023 May 1;13(1):7077.

[3]. Koya JB, et al. FDA-Approved Excipient N, N-Dimethylacetamide Attenuates Inflammatory Bowel Disease in In Vitro and In Vivo Models. Fortune J Health Sci. 2022;5:499-509.





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