Nicotinamide N-oxide

Cat. No.: HY-101407
CAS No.: 1986-81-8
Molecular Formula: C₆H₆N₂O₂
Molecular Weight: 138.12
Target: CXCR; Drug Metabolite; Endogenous Metabolite
Pathway: GPCR/G Protein; Immunology/Inflammation; Metabolic Enzyme/Protease
Storage: Powder
-20°C 3 years
4°C 2 years
In solvent
-80°C 6 months
-20°C 1 month

SOLVENT & SOLUBILITY

In Vitro

DMSO: 6.6 mg/mL (47.78 mM; Need warming)

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Mass Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO</td>
<td>1 mM</td>
<td>7.2401 mL</td>
<td>36.2004 mL</td>
<td>72.4008 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>1.4480 mL</td>
<td>7.2401 mL</td>
<td>14.4802 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.7240 mL</td>
<td>3.6200 mL</td>
<td>7.2401 mL</td>
</tr>
</tbody>
</table>

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description
Nicotinamide N-oxide, an in vivo nicotinamide metabolite, is a potent, and selective antagonist of the CXCR2 receptor.

IC₅₀ & Target
Human Endogenous Metabolite

In Vitro
Nicotinamide is one of the forms of vitamin B₃. It is a precursor for nicotinamide adenine dinucleotide, which is best known as an electron carrier in oxidative phosphorylation and as a cofactor for many dehydrogenases. It is metabolized through two enzymatic systems. The first system starts with the methylation of nicotinamide by nicotinamide N-methyltransferase, which can subsequently be oxidized by aldehyde oxidase. The second enzymatic system oxidizes nicotinamide to nicotinamide N-oxide[1]. A series of nicotinamide N-oxides is synthesized and shown to be novel, potent, and selective antagonists of the CXCR2 receptor. Compound 1 has demonstrated potent inhibition of neutrophil chemotaxis (IC₅₀=10 nM). Compound 2 is a selective antagonist of IL-8 binding (IC₅₀=110 nM) and potent inhibitor of neutrophil chemotaxis (IC₅₀=170 nM)[2].
REFERENCES
