**NSC232003**

Cat. No.: HY-103236  
CAS No.: 1905453-18-0  
Molecular Formula: C₆H₇N₃O₃  
Molecular Weight: 169.14  
Target: E1/E2/E3 Enzyme  
Pathway: 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

<table>
<thead>
<tr>
<th>In Vitro</th>
<th><strong>H₂O</strong>: 17 mg/mL (100.51 mM; Need ultrasonic and warming)</th>
<th><strong>DMSO</strong>: &lt; 1 mg/mL (insoluble or slightly soluble)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparing Stock Solutions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solvent</td>
<td>Concentration</td>
<td>Mass</td>
</tr>
<tr>
<td>---------</td>
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<td>------</td>
</tr>
<tr>
<td>H₂O</td>
<td>1 mM</td>
<td>5.9123 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>1.1825 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.5912 mL</td>
</tr>
</tbody>
</table>

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

### BIOLOGICAL ACTIVITY

**Description**  
NSC232003 is a highly potent and cell-permeable UHRF1 inhibitor, which inhibits DNA methylation in vitro and disrupts DNMT1/UHRF1 interactions at a cellular level.

**IC₅₀ & Target**  
UHRF1[¹]

**In Vitro**  
NSC232003, a uracil derivative freely available by the NCI/DTP repository, provides a versatile lead for developing highly potent and cell-permeable UHRF1 inhibitors that will enable dissection of DNA methylation inheritance. NSC232003 is indeed an effective DNA methyltransferase inhibitor and indicate that this particular nucleotide scaffold could provide a versatile basis for the design of potent UHRF1 inhibitors. NSC232003 is predicted to be partially deprotonated at pH 7, as the pKₐ of the more acidic imide nitrogen of the pyrimidine ring is a value of 7.6 in NSC232003. The DNMT1/UHRF1 interactions are significantly reduced after 4 h of incubation of U251 glioma cells with the most potent compound NSC232003, showing a 50% interaction inhibition at 15 μM as well as induction of global DNA cytosine demethylation as measured by ELISA[¹].

[¹]: Reference or Additional Information
REFERENCES