**ML385**

**Cat. No.:** HY-100523  
**CAS No.:** 846557-71-9  
**Molecular Formula:** C₂₉H₂₅N₃O₄S  
**Molecular Weight:** 511.59  
**Target:** Keap1-Nrf2  
**Pathway:** NF-κB  
**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: ≥ 30 mg/mL (58.64 mM)  
*“≥” means soluble, but saturation unknown.*

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Mass 1 mg</th>
<th>Solvent Mass 5 mg</th>
<th>Solvent Mass 10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>1.9547 mL</td>
<td>9.7735 mL</td>
<td>19.5469 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.3909 mL</td>
<td>1.9547 mL</td>
<td>3.9094 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.1955 mL</td>
<td>0.9773 mL</td>
<td>1.9547 mL</td>
</tr>
</tbody>
</table>

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

**In Vivo**  
1. ML385 is dissolved in 100% DMSO to prepare a stock solution, and then diluted it into 5% DMSO solution with PBS before being used[^2].

**BIOLOGICAL ACTIVITY**

**Description**  
ML385 is a specific nuclear factor erythroid 2-related factor 2 (NRF2) inhibitor with an IC₅₀ of 1.9 μM.

**IC₅₀ & Target**  
IC₅₀: 1.9 μM (NRF2)[^1]

**In Vitro**  
ML385 interacts with NRF2 and affects the DNA binding activity of the NRF2-MAFG protein complex. The addition of ML385 decreases anisotropy in a dose-dependent manner, with an IC₅₀ of 1.9 μM. A dose-dependent reduction in the NRF2 transcriptional activity is observed and the maximum inhibitory concentration is 5 μM by ML385. Treatment with ML385 leads to a significant reduction in NRF2 and downstream target gene expression selectively in KEAP1 mutant H460 cells. ML385 selectively affects the colony forming ability or growth of lung cancer cells with gain of NRF2 function[^1].
In Vivo

ML385 in combination with carboplatin leads to a significant reduction in tumor cell proliferation, demonstrated by fewer Ki-67 positive cells. Tumor samples treated with ML385 show a significant reduction in NRF2 protein level and its downstream target genes. [1].

PROTOCOL

Cell Assay [1]

Cells are treated with ML385 for 36 h. An equal amount of CellTiter-Blue reagent is added to the wells and the fluorescence is measured after 30 min. The CellTiter-Blue reagent is discarded and the Caspase-Glo (100 μL) reagent is added to the cells and incubated at 37°C for an additional 60-90 min. The resulting luminescence is recorded and the caspase activity is normalized to cell number[1].

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

Animal Administration [1]

Mice: Mice tumor xenografts are randomly allocated into 4 groups: vehicle, ML385, carboplatin, and ML385 in combination with carboplatin. Vehicle, carboplatin (5 mg/kg daily Monday to Friday) [18], ML385 (30 mg/kg daily Monday to Friday), or ML385 in combination with carboplatin are administered intraperitoneally for 3 weeks. At the end of treatment period, mice are sacrificed and the tumor, blood, lung, and liver samples are collected[1].

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

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