ML385

Cat. No.: HY-100523  
CAS No.: 846557-71-9  
Molecular Formula: \( \text{C}_{29}\text{H}_{25}\text{N}_{3}\text{O}_{4}\text{S} \)  
Molecular Weight: 511.59  
Target: Keap1-Nrf2; Ferroptosis  
Pathway: NF-\( \kappa \)B; Apoptosis  
Storage: Powder  
-20°C  3 years  
4°C  2 years  
In solvent  
-80°C  2 years  
-20°C  1 year

**SOLVENT & SOLUBILITY**

<table>
<thead>
<tr>
<th>In Vitro</th>
<th>DMSO : 83.33 mg/mL (162.88 mM; Need ultrasonic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H(_2)O : &lt; 0.1 mg/mL (insoluble)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
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<tr>
<td>5 mM</td>
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<td>10 mM</td>
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Please refer to the solubility information to select the appropriate solvent.

| In Vivo | 1. Add each solvent one by one: 50% PEG300 >> 50% saline  
Solubility: 10 mg/mL (19.55 mM); Suspended solution; Need ultrasonic  |
|---------|----------------------------------------------------------------|
|         | 2. Add each solvent one by one: 0.5% CMC-Na/saline water  
Solubility: 9.01 mg/mL (17.61 mM); Clear solution; Need ultrasonic |
|         | 3. Add each solvent one by one: 15% Solutol HS 15 >> 10% Cremophor EL >> 35% PEG 400 >> 40% water  
Solubility: 5 mg/mL (9.77 mM); Suspended solution; Need ultrasonic |
|         | 4. Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (4.89 mM); Clear solution |
|         | 5. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.08 mg/mL (4.07 mM); Clear solution |

**BIOLOGICAL ACTIVITY**

**Description**  
ML385 is a specific nuclear factor erythroid 2-related factor 2 (NRF2) inhibitor with an IC\(_{50}\) of 1.9 \(\mu\)M.
**IC₅₀ & Target**

| 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 function¹. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**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 genes¹. ML385 (intraperitoneal injection; 30 mg/kg; 7 days) weakens the therapeutic effects of MSC-Exo on inflammation-induced astrocytic activation in mice, and reduces reactive astrogliosis, NF-κB deactivation³. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

| Animal Model: | 8-week-old C57B/6 male mice³ |
| Dosage: | 30 mg/kg; 7 days |
| Administration: | Intraperitoneal injection |
| Result: | Reversed inhibition of MSC-Exo on hippocampal astrocytic activation in vivo. |

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**REFERENCES**


Caution: Product has not been fully validated for medical applications. For research use only.

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