**BOC-D-FMK**

**Cat. No.:** HY-13229  
**CAS No.:** 634911-80-1  
**Molecular Formula:** C₁₁H₁₈FNO₅  
**Molecular Weight:** 263.26  
**Target:** Caspase  
**Pathway:** Apoptosis  
**Storage:**  
- Pure form: -20°C 3 years  
- 4°C: 2 years  
- In solvent: -80°C 6 months  
- -20°C 1 month

**SOLVENT & SOLUBILITY**

**In Vitro**  
DMSO: ≥ 125 mg/mL (474.82 mM)  
*A “≥” means soluble, but saturation unknown.*

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Concentration</th>
<th>Mass (1 mg)</th>
<th>Mass (5 mg)</th>
<th>Mass (10 mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mM</td>
<td>3.7985 mL</td>
<td>18.9926 mL</td>
<td>37.9853 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.7597 mL</td>
<td>3.7985 mL</td>
<td>7.5971 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.3799 mL</td>
<td>1.8993 mL</td>
<td>3.7985 mL</td>
</tr>
</tbody>
</table>

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

**BIOLOGICAL ACTIVITY**

**Description**  
Boc-D-FMK is a cell-permeable, irreversible and broad spectrum caspase inhibitor; inhibits apoptosis stimulated by TNF-α with an IC₅₀ of 39 µM.

**IC₅₀ & Target**  
Caspase

**In Vitro**  
Apoptosis is a pathway of cell death orchestrated by a family of proteases called caspases. Boc-D-fmk inhibits TNFα-stimulated reactive oxygen species (ROS) generation. Boc-D-FMK inhibits apoptosis stimulated by TNF-α with an IC₅₀ of 39 µM[1]. BocD-FMK at 50 µM prevents genistein-induced apoptosis of p815 cells. Confocal microscopy shows that the release of mitochondrial apoptotic factors is inhibited by BocD-fmk[2].

**In Vivo**  
Boc-D-FMK-fmk effectively attenuates the hepatocyte apoptosis in bile duct-ligated rats and may improve the survival rates after endotoxin challenge[3]. A single injection of Boc-D-FMK results in longterm protection of MNs against root avulsion-induced death for more than 8 weeks and the Boc-D-FMK-treated MNs are able to regenerate
their axons into an implanted PN graft and reinnervate the target muscle[4].

**PROTOCOL**

**Animal Administration** [3]

Rats: Boc-D-FMK is dissolved in DMSO. Male Sprague-Dawley rats group 1 (OBB0C-D) undergo common bile duct ligation and simultaneously treatment with Boc-D-FMK. The first dose of Boc-D-FMK (1.5 mg/kg) is injected into the inferior vena cava immediately after bile duct ligation. Subsequent doses of Boc-DFMK (1.5 mg/kg twice daily) are given intraperitoneally on the first and second postoperative days. The last dose (1.5 mg/kg) is given on the morning of the third postoperative day[3].

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

**CUSTOMER VALIDATION**

- **Anal Chem.** 2017 Sep 19;89(18):9788-9796.

See more customer validations on www.MedChemExpress.com

**REFERENCES**

[1]. Cowburn AS, et al. z-VAD-fmk augmentation of TNF alpha-stimulated neutrophil apoptosis is compound specific and does not involve the generation of reactive oxygen species.


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

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA