**KML29**

Cat. No.: HY-18977  
CAS No.: 1380424-42-9  
Molecular Formula: C₄₂H₂₁F₆NO₇  
Molecular Weight: 549.42  
Target: MAGL  
Pathway: Metabolic Enzyme/Protease  
Storage:  
- Powder: -20°C for 3 years, 4°C for 2 years  
- In solvent: -80°C for 2 years, -20°C for 1 year

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**SOLVENT & SOLUBILITY**

**In Vitro**  
DMSO: 50 mg/mL (91.01 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent Concentration | Mass  
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mg</td>
<td>5 mg</td>
<td>10 mg</td>
<td></td>
</tr>
<tr>
<td>1 mM</td>
<td>1.8201 mL</td>
<td>9.1005 mL</td>
<td>18.2010 mL</td>
<td></td>
</tr>
<tr>
<td>5 mM</td>
<td>0.3640 mL</td>
<td>1.8201 mL</td>
<td>3.6402 mL</td>
<td></td>
</tr>
<tr>
<td>10 mM</td>
<td>0.1820 mL</td>
<td>0.9101 mL</td>
<td>1.8201 mL</td>
<td></td>
</tr>
</tbody>
</table>

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

**In Vivo**  
1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
   Solubility: ≥ 2.5 mg/mL (4.55 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil  
   Solubility: ≥ 2.5 mg/mL (4.55 mM); Clear solution

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**BIOLOGICAL ACTIVITY**

**Description**  
KML29 is an extremely selective, orally active and irreversible MAGL inhibitor, with IC₅₀ values of 15 nM, 43 nM and 5.9 nM for mouse, rat and human MAGL, respectively. KML29 exhibits minimal cross-reactivity toward other central and peripheral serine hydrolases, including no detectable activity against FAAH\(^1\)[\(^2\)].

**IC₅₀ & Target**  
IC₅₀: 15 nM (mouse MAGL), 43 nM (rat MAGL), 5.9 nM (human MAGL)\(^2\).

**In Vitro**  
KML29 dose-dependently elevates brain 2-AG level up to 10-fold without alteration in brain levels of anandamide, palmitoylethanolamide, and oleoylethanolamide\(^2\).  
KML29 is a potent inhibitor of 2-AG hydrolysis, but did not affect AEA hydrolysis at any concentration tested\(^2\).  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo  

KML29 inhibits antinociceptive activity without cannabinimetic side effects[3]. KML29 (20 mg/kg) has a significant but modest protective effect against LPS-induced fever[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

<table>
<thead>
<tr>
<th>Animal Model:</th>
<th>C57Bl/6 mice[2]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dosage:</td>
<td>1-40 mg/kg.</td>
</tr>
<tr>
<td>Administration:</td>
<td>P.O. single dose.</td>
</tr>
<tr>
<td>Result:</td>
<td>Selectively inhibited MAGL in mice.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Animal Model:</th>
<th>Wistar albino male rats[2].</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dosage:</td>
<td>20 mg/kg (+LPS E. coli O111:B4 (250 µg/kg, sc)).</td>
</tr>
<tr>
<td>Administration:</td>
<td>SC.</td>
</tr>
<tr>
<td>Result:</td>
<td>Administration of KML29 simultaneously with LPS E. coli O111:B4 significantly decreased ΔT (with 5% type 1 error, 1.7 fold) compared to saline+LPS E. coli O111:B4. Administration of KML29 simultaneously with LPS E. coli O111:B4 resulted in decreased plateau phase of fever compared to LPS E. coli O111:B4+saline administration.</td>
</tr>
</tbody>
</table>

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**REFERENCES**


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**CUSTOMER VALIDATION**

- Dalhousie University. 2017 Nov.

See more customer validations on www.MedChemExpress.com

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

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