Difamilast

Cat. No.: HY-109085
CAS No.: 937782-05-3
Molecular Formula: C\textsubscript{23}H\textsubscript{24}F\textsubscript{2}N\textsubscript{2}O\textsubscript{5}
Molecular Weight: 446.44
Target: Phosphodiesterase (PDE)
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

In Vitro

DMSO: 100 mg/mL (223.99 mM; Need ultrasonic)

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Concentration</td>
<td>1 mg</td>
</tr>
<tr>
<td>1 mM</td>
<td></td>
<td>2.2399 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td></td>
<td>0.4480 mL</td>
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<tr>
<td>10 mM</td>
<td></td>
<td>0.2240 mL</td>
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</tbody>
</table>

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (5.60 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.60 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Difamilast (OPA-15406) is a topical, selective and nonsteroidal phosphodiesterase-4 (PDE4) inhibitor with particularly efficient inhibition of subtype B (IC\textsubscript{50}=11.2 nM). Difamilast can be used for the research of mild to moderate atopic dermatitis (AD)\textsuperscript{[1][2][3].}

IC\textsubscript{50} & Target
PDE4B
11.2 nM (IC\textsubscript{50})

In Vitro
OPA-15406 is highly selective for inhibition of PDE4 subtype B (IC\textsubscript{50}=11.2 nM), and OPA-15406 also exerts inhibitory effects on PDE2\textsuperscript{[2].}

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

OPA-1540 improves skin condition in relevant animal models of AD\(^\text{[1]}\).

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**REFERENCES**

