SD 0006

Cat. No.: HY-11087  
CAS No.: 271576-80-8  
Molecular Formula: $\text{C}_{20}\text{H}_{20}\text{ClN}_{5}\text{O}_{2}$  
Molecular Weight: 397.86  
Target: p38 MAPK; Autophagy  
Pathway: MAPK/ERK Pathway; Autophagy  
Storage: Powder  
-20°C 3 years  
4°C 2 years  
In solvent  
-80°C 6 months  
-20°C 1 month

**SOLVENT & SOLUBILITY**

### In Vitro

<table>
<thead>
<tr>
<th>DMSO : 50 mg/mL (125.67 mM; Need ultrasonic)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preparation of Stock Solutions</strong></td>
</tr>
<tr>
<td>Concentration</td>
</tr>
<tr>
<td>1 mg</td>
</tr>
<tr>
<td>1 mM</td>
</tr>
<tr>
<td>5 mM</td>
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<tr>
<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: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
   Solubility: ≥ 2.5 mg/mL (6.28 mM); Clear solution

2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
   Solubility: ≥ 2.5 mg/mL (6.28 mM); Clear solution

3. Add each solvent one by one: 10% DMSO >> 90% corn oil  
   Solubility: ≥ 2.5 mg/mL (6.28 mM); Clear solution

**BIOLOGICAL ACTIVITY**

### Description

SD 0006 (SD-06) is an orally active, selective, ATP-competitive and potent diaryl pyrazole inhibitor of p38α MAP kinase, with an IC$_{50}$ of 110 nM for p38α.$^1$$^2$

### IC$_{50}$ & Target

IC$_{50}$: 110 nM (p38 MAPK)$^1$.

**In Vitro**

SD 0006 clearly inhibits p38α as shown by the dose-dependent inhibition of phosphorylation of its endogenous
Hsp27 substrate\textsuperscript{[1]}.

**In Vivo**

SD 0006 (0-30 mg/kg) may be an effective alternative to steroids and biologics for RA therapy\textsuperscript{[1]}. SD0006 (3.75, 7.5 and 15 mg/kg; p.o.; b.i.d.) is highly effective in attenuating SCW-induced inflammation as shown by the dose-dependent inhibition of paw swelling\textsuperscript{[1]}.

| Animal Model: | 8- to 12-week-old DBA/1 mice\textsuperscript{[1]}.
| Dosage: | 3.75, 7.5 and 15 mg/kg.
| Administration: | Orally twice daily.
| Result: | Inhibited the transcription of several inflammatory mediators to prevent joint swelling and bone destruction and to preserve bone density.

**REFERENCES**


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

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