YM-90709

Cat. No.: HY-19969  
CAS No.: 163769-88-8  
Molecular Formula: C₂₂H₂₁N₃O₂  
Molecular Weight: 359.42  
Target: InterleukinRelated  
Pathway: Immunology/Inflammation  
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: 62.5 mg/mL (173.89 mM; Need ultrasonic)  
H₂O: < 0.1 mg/mL (insoluble)

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Concentration</th>
<th>Mass (ml)</th>
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<tbody>
<tr>
<td></td>
<td>1 mM</td>
<td>2.7823</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.5565</td>
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<tr>
<td></td>
<td>10 mM</td>
<td>0.2782</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: ≥ 2.08 mg/mL (5.79 mM); Clear solution  
2. Add each solvent one by one:  
   10% DMSO >> 90% (20% SBE-β-CD in saline)  
   Solubility: 2.08 mg/mL (5.79 mM); Suspended solution; Need ultrasonic

**BIOLOGICAL ACTIVITY**

YM-90709 is a novel antagonist which inhibits the binding of interleukin-5 to interleukin-5 receptor. Target: IL-5 in vitro: YM-90709 potently inhibits the binding of 100 pM [125I]-IL-5 to IL-5R on human peripheral eosinophils and eosinophilic HL-60 clone 15 cells with IC50 values of 1.0±0.40 and 0.57±0.21 μM, respectively. YM-90709 inhibits the 4 pM IL-5-induced effect in a concentration-dependent manner with an IC50 value of 0.45±0.024 μM. YM-90709 also inhibits the higher concentrations (12 and 40 pM) of IL-5-induced effects with IC50 values of 0.89±0.29 and 1.0±0.22 μM, respectively. [1] YM-90709 is a novel interleukin-5 receptor antagonist, YM-90709 inhibits antigen-induced eosinophil recruitment into the airway, the same as anti-IL-5 mAb does. YM-90709 inhibits the binding of IL-5 to IL-5R on human eosinophils, but did not inhibit the binding of GM-CSF to GM-CSFR. In addition, YM-90709 inhibits IL-
5-induced, but not GM-CSF-induced, eosinophil survival as well as the tyrosine phosphorylation of Janus kinase 2. In vivo: YM-90709 suppresses antigen-induced airway inflammation in Brown Norway rats. YM-90709 is a novel IL-5R antagonist with those of ant-IL-5 mAb on the antigen-induced infiltration of eosinophils into the airways of BDF1 mice, a strain that is commonly used in the antibody estimation. This is the first report on the examination of the effects of YM-90709 in vivo, as a novel IL-5R antagonist on the antigen-induced infiltration of eosinophils and other leukocytes into the BALF of Brown-Norway (BN) rats. 

REFERENCES

