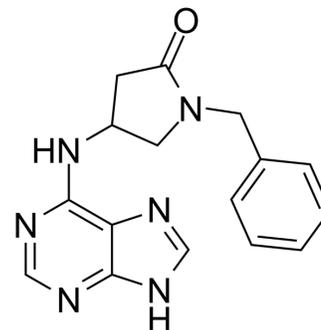


## (Rac)-Benpyrine

<b>Cat. No.:</b>	HY-133807A
<b>CAS No.:</b>	1333714-43-4
<b>Molecular Formula:</b>	C <sub>16</sub> H <sub>16</sub> N <sub>6</sub> O
<b>Molecular Weight:</b>	308.34
<b>Target:</b>	TNF Receptor
<b>Pathway:</b>	Apoptosis
<b>Storage:</b>	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 10 mg/mL (32.43 mM; ultrasonic and warming and heat to 60°C)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	3.2432 mL	16.2159 mL	32.4317 mL
		5 mM	0.6486 mL	3.2432 mL	6.4863 mL
		10 mM	0.3243 mL	1.6216 mL	3.2432 mL
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 1.25 mg/mL (4.05 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 1.25 mg/mL (4.05 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 1.25 mg/mL (4.05 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

<b>Description</b>	(Rac)-Benpyrine, a racemate of Benpyrine, is a potent and orally active TNF-α inhibitor. (Rac)-Benpyrine has the potential for TNF-α mediated inflammatory and autoimmune disease research <sup>[1]</sup> .
<b>In Vitro</b>	(Rac)-Benpyrine (Compound 001; 5-10 μM; 24 hours) treatment inhibits the expression level of TNF-α downstream pathway protein NF-κB in the nucleus in RAW264.7 macrophages <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	(Rac)-Benpyrine (Compound 001; 25-50 mg/kg; oral gavage; daily; for 3 weeks; Kunming mice) treatment obviously reduces the inflammatory cytokines IFN-γ, IL-1β and IL-6 in the blood serum, and the anti-inflammatory factor IL-10 is obviously

increased, the foot swelling degree of the arthritis part is also obviously slowed down, and the weight index increase caused by the arthritis also has no obvious reduction<sup>[1]</sup>.

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

Animal Model:	Kunming mice (7-8 weeks) treated with bovine type II collagen and a CFA complete adjuvant <sup>[1]</sup>
Dosage:	25 mg/kg, 50 mg/kg
Administration:	Oral gavage; daily; for 3 weeks
Result:	The inflammatory cytokines IFN- $\gamma$ , IL-1 $\beta$ and IL-6 in the blood serum were obviously reduced, and the anti-inflammatory factor IL-10 was obviously increased.

## REFERENCES

[1]. Hua Li, et al. Compound with TNF-  $\alpha$  inhibitory activity and application. CN111320630A.

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

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