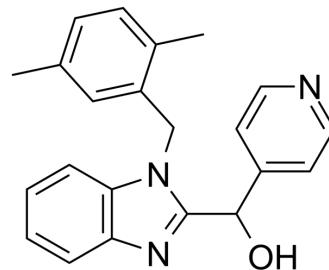


## UCB-5307

<b>Cat. No.:</b>	HY-147045
<b>CAS No.:</b>	1515887-44-1
<b>Molecular Formula:</b>	C <sub>22</sub> H <sub>21</sub> N <sub>3</sub> O
<b>Molecular Weight:</b>	343.42
<b>Target:</b>	TNF Receptor
<b>Pathway:</b>	Apoptosis
<b>Storage:</b>	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 50 mg/mL (145.59 mM; Need ultrasonic)				
		Solvent Concentration	Mass		
	<b>Preparing Stock Solutions</b>		1 mg	5 mg	10 mg
		1 mM	2.9119 mL	14.5594 mL	29.1189 mL
		5 mM	0.5824 mL	2.9119 mL	5.8238 mL
	10 mM	0.2912 mL	1.4559 mL	2.9119 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: ≥ 2.5 mg/mL (7.28 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (7.28 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (7.28 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

<b>Description</b>	UCB-5307 is a potent TNF signaling inhibitor with a K <sub>D</sub> of 9 nM for human TNFα. UCB-5307 can penetrate the preformed hTNF/hTNFR1 complex <sup>[1]</sup> .
<b>In Vitro</b>	<p>UCB-5307 inhibits wild-type TNF but does not inhibit L57F TNF. The T<sub>1/2</sub> of UCB-5307 is 3.3 h<sup>[1]</sup>.</p> <p>UCB-5307 disrupts a preformed hTNF/hTNFR1 complex, can penetrate the preformed complex, dislodging one of the receptors. Preloading hTNF with UCB-5307 blocks one receptor from binding<sup>[1]</sup>.</p> <p>UCB-5307 binds to a pocket in the centre of the TNF trimer formed by the movement of the TNF monomers, stabilising the distorted trimer, which leads to reduced signalling through TNFR1<sup>[1]</sup>.</p>

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

## REFERENCES

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[1]. O'Connell J, et al. Small molecules that inhibit TNF signalling by stabilising an asymmetric form of the trimer. Nat Commun. 2019 Dec 19;10(1):5795.

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

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