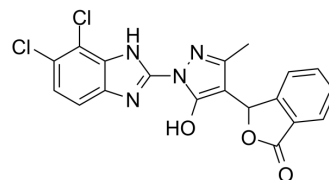


RU.521

Cat. No.:	HY-114180		
CAS No.:	2262452-06-0		
Molecular Formula:	C ₁₉ H ₁₂ Cl ₂ N ₄ O ₃		
Molecular Weight:	415.23		
Target:	Cyclic GMP-AMP Synthase		
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 : 83.33 mg/mL (200.68 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	2.4083 mL	12.0415 mL	24.0830 mL
		5 mM	0.4817 mL	2.4083 mL	4.8166 mL
10 mM		0.2408 mL	1.2042 mL	2.4083 mL	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (5.01 mM); Clear solution Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (5.01 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (5.01 mM); Clear solution 				

BIOLOGICAL ACTIVITY

Description	RU.521 (RU320521) is a potent and selective cyclic GMP-AMP synthase (cGAS) inhibitor and inhibits cGAS-mediated interferon upregulation. RU.521 suppresses dsDNA-activated reporter activity with an IC ₅₀ of 0.7 μM. RU.521 reduces constitutive expression of interferon in macrophages from a mouse model of Aicardi-Goutières syndrome (AGS) ^[1] .
IC₅₀ & Target	IC ₅₀ : 0.7 μM (dsDNA) ^[1]
In Vitro	RU.521 (0.1 nM-1000 μM; 72 h) suppresses dsDNA-induced signaling in macrophage cells ^[1] .

RU.521(0-100 μ M; 24 h) selectively inhibits cGAS-mediated signaling^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

RU.521 (5 mg/kg; i.p. once) reduces symptoms from sepsis in mice^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male 8-week-old male mice with LPS injection ^[2]
Dosage:	5 mg/kg
Administration:	Intraperitoneal injection; 5 mg/kg once
Result:	Increased cardiac function and reduced the inflammatory responses, oxidative stress and apoptosis in hearts of mice.

CUSTOMER VALIDATION

- Proc Natl Acad Sci U S A. 2022 Oct 25;119(43):e2207280119.
- Mbio. 2021 Oct 12;e0240821.
- Exp Neurol. 2022: 114269
- Neuropharmacology. 2022 Aug 1;217:109206.
- Cell Death Discov. 2022 May 11;8(1):258.

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REFERENCES

[1]. Xu Q, et al. Small molecule inhibition of cyclic GMP-AMP synthase ameliorates sepsis-induced cardiac dysfunction in mice. Life Sci. 2020 Nov 1;260:118315.

[2]. Vincent J, et al. Small molecule inhibition of cGAS reduces interferon expression in primary macrophages from autoimmune mice. Nat Commun. 2017 Sep 29;8(1):750.

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

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