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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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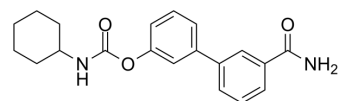
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URB-597

Cat. No.:	HY-10864
CAS No.:	546141-08-6
Molecular Formula:	C ₂₀ H ₂₂ N ₂ O ₃
Molecular Weight:	338.4
Target:	FAAH; Autophagy; Mitophagy
Pathway:	Metabolic Enzyme/Protease; Neuronal Signaling; Autophagy
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (295.51 mM)
 H₂O : < 0.1 mg/mL (insoluble)
 * "≥" means soluble, but saturation unknown.

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		2.9551 mL	14.7754 mL	29.5508 mL
	5 mM		0.5910 mL	2.9551 mL	5.9102 mL
	10 mM		0.2955 mL	1.4775 mL	2.9551 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: 10 mg/mL (29.55 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.5 mg/mL (7.39 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (7.39 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

URB-597 (KDS-4103) is an orally bioavailable and selective FAAH inhibitor. URB-597 inhibits FAAH activity with an IC₅₀s of approximately 5 nM in rat brain membranes, 0.5 nM in intact rat neurons, 3 nM in human liver microsomes. Antidepressant-like effects. Analgesic activity^[1].

In Vitro

URB-597 (KDS-4103) prevents the FAAH-catalyzed hydrolysis of [³H]anandamide by primary cultures of rat cortical neurons

	with an IC₅₀ value of ~0.50 nM^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.								
In Vivo	URB-597 (KDS-4103) inhibits rat brain FAAH activity after intraperitoneal (i.p.) administration with a median inhibitory dose (ID₅₀) of 0.15 mg/kg in wild-type mice (+/+) or FAAH-null mice (-/-)^[1]. KDS-4103 (0.1-0.3 mg/kg, i.p.) elicits significant, anxiolytic-like, antidepressant-like and analgesic effects, which are prevented by treatment with CB1 receptor antagonists in rats and mice^[1]. KDS-4103 is orally available in rats and cynomolgus monkeys^[1]. URB-597 inhibits FAAH in the brain rapidly (1 h), sustains at >90% through 12 h and >60% through 24 h after an oral dose of 10 mg/kg. MCE has not independently confirmed the accuracy of these methods. They are for reference only. <table> <tr> <td>Animal Model:</td><td>Wistar rats^[1]</td></tr> <tr> <td>Dosage:</td><td>250, 500, 750, 1000, 1250 mg/kg (Pharmacokinetic Analysis)</td></tr> <tr> <td>Administration:</td><td>Oral administration</td></tr> <tr> <td>Result:</td><td>Absorbed at a moderate rate with peak plasma concentrations (C_{max}) achieved at 1.2 h after treatment. The oral elimination half-life was approximately 2 h.</td></tr> </table>	Animal Model:	Wistar rats ^[1]	Dosage:	250, 500, 750, 1000, 1250 mg/kg (Pharmacokinetic Analysis)	Administration:	Oral administration	Result:	Absorbed at a moderate rate with peak plasma concentrations (C _{max}) achieved at 1.2 h after treatment. The oral elimination half-life was approximately 2 h.
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CUSTOMER VALIDATION

- J Neuroimmune Pharmacol. 2024 Jan 12;19(1):1.
- Eur J Pharmacol. 2023 Aug 10;175982.
- Cereb Cortex. 2020 Dec 21;bhaa363.
- Oxid Med Cell Longev. 2022 May 12;2022:4139330.

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REFERENCES

[1]. Daniele Piomelli, et al. Pharmacological profile of the selective FAAH inhibitor KDS-4103 (URB597). CNS Drug Rev. Spring 2006;12(1):21-38.

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

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