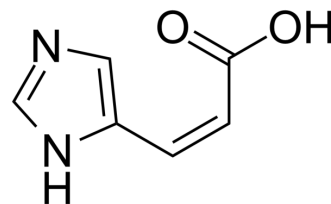


cis-Urocanic acid

Cat. No.:	HY-113008A		
CAS No.:	7699-35-6		
Molecular Formula:	C ₆ H ₆ N ₂ O ₂		
Molecular Weight:	138.12		
Target:	5-HT Receptor		
Pathway:	GPCR/G Protein; Neuronal Signaling		
Storage:	Powder	-20°C	3 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

H₂O : 50 mg/mL (362.00 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	7.2401 mL	36.2004 mL	72.4008 mL
	5 mM	1.4480 mL	7.2401 mL	14.4802 mL
	10 mM	0.7240 mL	3.6200 mL	7.2401 mL

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

BIOLOGICAL ACTIVITY

Description

cis-Urocanic acid is a 5-HT_{2A} receptor agonist. cis-Urocanic acid binds to 5-HT receptor with relatively high affinity (K_d=4.6 nM). cis-Urocanic acid is an immune modulator that induces immunosuppression by binding to the 5-HT_{2A} receptor^[1].

IC₅₀ & Target

5-HT_{2A} Receptor

In Vitro

Treatment with 100 µg/mL cis-Urocanic acid (cis-UCA) completely suppresses IL-6 and IL-8 secretion, decreases caspase-3 activity, and improves cell viability against UV-B irradiation. No significant effects on IL-6 or IL-8 secretion, caspase-3 activity, or viability of the non-irradiated cells are observed with 100 µg/mL cis-Urocanic acid in both cell types. The 5000 µg/mL concentration is toxic^[1].

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

Cell Viability Assay^[1]

Cell Line:	Human corneal epithelial cells (HCE-2) and human conjunctival epithelial cells (HCECs)
Concentration:	10, 100, 1,000, and 5,000 µg/mL

Incubation Time:	24, 48, or 72 hours
Result:	Treatment with 100 µg/mL completely suppressed IL-6 and IL-8 secretion, decreased caspase-3 activity, and improved cell viability against UV-B irradiation. No significant effects on IL-6 or IL-8 secretion, caspase-3 activity, or viability of the non-irradiated cells were observed with 100 µg/mL in both cell types.

REFERENCES

- [1]. Walterscheid JP, et al. Cis-urocanic acid, a sunlight-induced immunosuppressive factor, activates immune suppression via the 5-HT_{2A} receptor. Proc Natl Acad Sci U S A. 2006 Nov 14;103(46):17420-5.
- [2]. Viiri J, et al. Cis-urocanic acid suppresses UV-B-induced interleukin-6 and -8 secretion and cytotoxicity in human corneal and conjunctival epithelial cells in vitro. Mol Vis. 2009 Sep 8;15:1799-805.
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Caution: Product has not been fully validated for medical applications. For research use only.

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