trans-Urocanic acid

Cat. No.: HY-113008B

CAS No.: 3465-72-3

Molecular Formula: $C_6H_6N_2O_2$

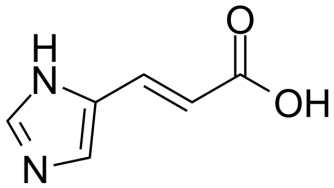
Molecular Weight: 138.13

Target: Endogenous Metabolite

Pathway: Metabolic Enzyme/Protease

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 : 100 mg/mL (723.96 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	7.2396 mL	36.1978 mL	72.3956 mL
5 mM	1.4479 mL	7.2396 mL	14.4791 mL
10 mM	0.7240 mL	3.6198 mL	7.2396 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (18.10 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (18.10 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (18.10 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

trans-urocanic acid (trans-UCA), a natural epidermal constituent, inhibits human natural killer cell (NK) activity in vitro. trans-urocanic acid is active in regulating an immune function[1].

IC_{50} & Target

Human Endogenous Metabolite

In Vitro

trans-urocanic acid (trans-UCA) partially inhibits cytotoxic function of IL-2-activated NK cells and reduces IL-2-induced activation of NK cells[1].

trans-urocanic acid (trans-UCA;100 μg/mL) slightly decreases cell proliferation and viability of primary human keratinocytes [2].

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

Cell Proliferation Assay[2]

Cell Line:	Primary human keratinocytes
Concentration:	100 μg/mL
Incubation Time:	24 hours
Result:	Decreased cell proliferation and viability.

REFERENCES

[1]. J Uksila, et al. Trans-urocanic acid, a natural epidermal constituent, inhibits human natural killer cell activity in vitro. Exp Dermatol. 1994 Apr;3(2):61-5.

[2]. Kazuyo Kaneko, et al. cis-Urocanic acid enhances prostaglandin E2 release and apoptotic cell death via reactive oxygen species in human keratinocytes. J Invest Dermatol. 2011 Jun;131(6):1262-71.

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

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