AUDA

Cat. No.: HY-108570

CAS No.: 479413-70-2

Molecular Formula: $C_{23}H_{40}N_2O_3$

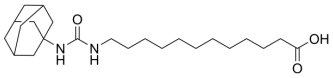
Molecular Weight: 392.58

Target: Epoxide Hydrolase

Pathway: Metabolic Enzyme/Protease

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 : 125 mg/mL (318.41 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.5473 mL	12.7363 mL	25.4725 mL
5 mM	0.5095 mL	2.5473 mL	5.0945 mL
10 mM	0.2547 mL	1.2736 mL	2.5473 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: 2.08 mg/mL (5.30 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.30 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.30 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

AUDA (compound 43) is a potent soluble epoxide hydrolase (sEH) inhibitor with IC_{50}s of 18 and 69 nM for the mouse and human sEH, respectively[1]. AUDA has anti-inflammatory activity[2].

IC_{50} & Target

IC50: 18 nM (mouse sEH) and 69 nM (human sEH)[1]

In Vitro

AUDA (0.3-10 μg/mL; 48 hours) dose-dependently suppresses the proliferation of rat VSMCs exposed to PDGF[2].
AUDA (0.3-10 μg/mL; 30 min) dose-dependently upregulats COX-2 expression[2].

AUDA (10, 50 and 100 μM) augments the migratory ability of HCAECs in a dose-dependent manner[3].
AUDA significantly increases the adhesion ability of HCAECs[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[2]

Cell Line:	Vascular smooth muscle cell (VSMC)
Concentration:	0.3, 1, 3, 10 μg/mL
Incubation Time:	48 hours
Result:	Dose-dependently suppressed the proliferation of rat VSMCs exposed to PDGF.

Western Blot Analysis[2]

Cell Line:	VSMC
Concentration:	1, 3, 10, 30 μg/mL
Incubation Time:	30 min
Result:	Dose-dependently upregulated COX-2 expression.

In Vivo

AUDA (i.p.; 10 mg/kg; 14 days) reduces TNF-α, MMP-9 and IL-1β expression levels[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male (wild-type) C57BL/6 mice (age, 4-6 weeks; weight, 18-20 g)[3]
Dosage:	10 mg/kg
Administration:	i.p.; 14 days
Result:	Reduced TNF-α, MMP-9 and IL-1β expression levels.

CUSTOMER VALIDATION

- J Mol Cell Cardiol. 2023 Oct 21:185:13-25.
- Heliyon. 2024 Apr 30;10(9):e29978.
- J Neuroimmunol. 2023 Nov 22, 578250.

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REFERENCES

[1]. Morisseau C, et al. Structural refinement of inhibitors of urea-based soluble epoxide hydrolases.Biochem Pharmacol. 2002 May 1;63(9):1599-608.

[2]. Kim HS, et al. Differential Effects of sEH Inhibitors on the Proliferation and Migration of Vascular Smooth Muscle Cells.Int J Mol Sci. 2017 Dec 11;18(12).

[3]. Dai N, et al. Vascular repair and anti-inflammatory effects of soluble epoxide hydrolase inhibitor.Exp Ther Med. 2019 May;17(5):3580-3588.

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

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