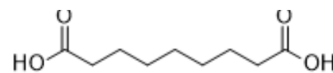


Azelaic acid

Cat. No.:	HY-B0704
CAS No.:	123-99-9
Molecular Formula:	C ₉ H ₁₆ O ₄
Molecular Weight:	188.22
Target:	Endogenous Metabolite; Antibiotic
Pathway:	Metabolic Enzyme/Protease; Anti-infection
Storage:	Store at room temperature 3 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (531.28 mM)
 H₂O : 2 mg/mL (10.63 mM; Need ultrasonic)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	5.3128 mL	26.5642 mL	53.1285 mL
	5 mM	1.0626 mL	5.3128 mL	10.6257 mL
	10 mM	0.5313 mL	2.6564 mL	5.3128 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: ≥ 2.5 mg/mL (13.28 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (13.28 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (13.28 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Azelaic acid is a nine-carbon dicarboxylic acid. Azelaic acid has antimicrobial activity against *Propionibacterium acnes* and *Staphylococcus epidermidis* through inhibition of microbial cellular proreine synthesis. Azelaic acid has hypopigmentation action resulting from its ability to scavenge free radicals^{[1][2]}.

IC₅₀ & Target

Human Endogenous Metabolite

In Vitro

Azelaic acid (0.5 M; 48 h-7 D) has antimicrobial effect^[3].

Azelaic acid (5 M; 24 h) decreases intracellular Reactive Oxygen Species (ROS) levels and increases antioxidant capacity^[5].

Azelaic acid (1-100 mM, 24 h) suppresses B16, HMB2, and SK23 cell survival ability in a dose-dependent manner^[6].

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

Cell Viability Assay^[3]

Cell Line:	Propionibacterium acnes and Staphylococcus epidermidis
Concentration:	0.5 M
Incubation Time:	Propionibacterium acnes for 48 h, Staphylococcus epidermidis for 7 D
Result:	Exhibited large reduction in viability (at least 40-fold) over 24 h.

Immunofluorescence^[5]

Cell Line:	HL60, U937, THP-1, and AML-PC cells
Concentration:	5 M
Incubation Time:	24 h
Result:	Exhibited markedly decreasing the intracellular ROS levels.

Cell Viability Assay^[6]

Cell Line:	B16, HMB2, and SK23, CHO
Concentration:	10-100 mM
Incubation Time:	24 h
Result:	Showed significantly reduce in the number of B16, HMB2, and SK23 comparing to CHO.

In Vivo

Azelaic acid (15% gel; Smear; twice daily) in 15% gel is efficacious in people with moderate papulo-pustular^[4].

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

Animal Model:	Human with rosacea for 12 weeks ^[4]
Dosage:	15% gel
Administration:	Smear
Result:	Showed excellent improvent in 78% of the patients with Azelaic acid.

CUSTOMER VALIDATION

- Katedra farmakologie a toxikologie. 2020 Jul.

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REFERENCES

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

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