

Azelaic acid

Chemical Properties

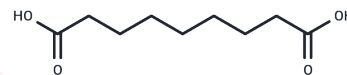
CAS No. : 123-99-9

Formula: C₉H₁₆O₄

Molecular Weight: 188.22

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year



Biological Description

Description	Azelaic acid (Anchoic acid) is a component of hair and skin conditioners and is produced by the ozonolysis of oleic acid. Azelaic acid has bacteriostatic activity against <i>Propionibacterium acnes</i> and <i>Staphylococcus epidermidis</i> by inhibiting protein synthesis in microbial cells. Azelaic acid also has the ability to inhibit pigmentation due to its free radical scavenging action.
Targets(IC50)	Endogenous Metabolite,DNA/RNA Synthesis
In vitro	AZ(Azelaic acid) combined with taurine (Tau) show more inhibitory effects in melanocytes than the treatment of AZ alone. AZ combined with Tau inhibits the melanin production and tyrosinase activity of B16F10 melanoma cells without significant cytotoxicity. Also inhibitory effects after treatment with these combined chemical are stronger than AZ alone on melanogenesis[2].
In vivo	Azelaic acid exhibits an anti-atherogenic effect. Its athero-protective effect is not related to changes in plasma lipid content. Azelaic acid supplementation decreases the level of CD68 macrophage marker by 34% (p<0.05)[1].
Cell Research	B16F10 melanoma cells are seeded at a density of 2.5×10 ⁵ cells/60 mm culture dish. The cells are treated with Azelaic acid combined with Tau for 24 hr. The cells pellets are dissolved in 1 N NaOH at 60°C for 1 hr. The relative melanin content is determined by measuring the absorbance at 475 nm in ELISA reader. (Only for Reference)

Solubility Information

Solubility	Ethanol: 35 mg/mL (185.95 mM),Sonication is recommended. DMSO: 55 mg/mL (292.21 mM),Sonication is recommended. H ₂ O: 34 mg/mL (180.64 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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A DRUG SCREENING EXPERT

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.3129 mL	26.5647 mL	53.1293 mL
5 mM	1.0626 mL	5.3129 mL	10.6259 mL
10 mM	0.5313 mL	2.6565 mL	5.3129 mL
50 mM	0.1063 mL	0.5313 mL	1.0626 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Litvinov D, et al. Atherosclerosis. 2010, 209(2):449-54.

Yu JS, et al. J Biomed Sci. 2010, 17 Suppl 1:S45.

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