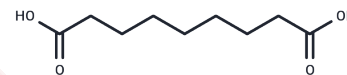


Azelaic acid

Chemical Properties

CAS No. :	123-99-9
Formula:	C ₉ H ₁₆ O ₄
Molecular Weight:	188.22
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



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 protoprotein synthesis in microbial cells. Azelaic acid also has the ability to inhibit pigmentation due to its free radical scavenging action.
Targets(IC50)	Endogenous Metabolite,Antibiotic,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: 245 mg/mL (1301.67 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)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (10.63 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

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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