

Glycolic acid

Chemical Properties

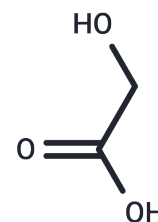
CAS No. : 79-14-1

Formula: C₂H₄O₃

Molecular Weight: 76.05

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

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Glycolic acid, an inhibitor of tyrosinase, suppresses melanin formation and is used in skincare products.
Targets(IC50)	Endogenous Metabolite,Tyrosinase
In vivo	Glycolic acid(GA) reduced the production of UVB-induced nuclear factor kappa B (NF-κB) -dependent inflammatory mediators [interleukin (IL)-1β, IL-6, IL-8, cyclooxygenase (COX)-2, tumor necrosis factor-α, and monocyte chemoattractant protein (MCP-1)] at both mRNA and protein levels. GA inhibited the UVB-induced promoter activity of NF-κB in HaCaT cells. GA attenuated the elevation of senescence associated with β-galactosidase activity but did not affect the wound migration ability. The topical application of GA inhibited the genes expression of IL-1β, IL-6, IL-8, COX-2, and MCP-1 in UVB-exposed mouse skin. The mice to UVB irradiation after GA was topically applied for 9 consecutive days and reported that 1-1.5% of GA exerted anti-inflammatory effects on mouse skin[1]
Animal Research	The effects of different concentrations of Glycolic acid(GA) on the inflammatory response of human keratinocytes HaCaT cells and C57BL/6J mice dorsal skin.?After GA was topically applied, HaCaT and mice skin were exposed to UVB irradiation[1].

Solubility Information

Solubility	DMSO: 50 mg/mL (657.46 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 (26.3 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	13.1492 mL	65.7462 mL	131.4924 mL
5 mM	2.6298 mL	13.1492 mL	26.2985 mL
10 mM	1.3149 mL	6.5746 mL	13.1492 mL
50 mM	0.263 mL	1.3149 mL	2.6298 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

Tang S C , Liao P Y , Hung S J , et al. Topical application of glycolic acid suppresses the UVB induced IL-6, IL-8, MCP-1 and COX-2 inflammation by modulating NF- κ B signaling pathway in keratinocytes and mice skin[J]. Journal of Dermatological Science, 2017:S092318111630915X.

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