

## Methyl 3-(2,4-dihydroxyphenyl)propionate

## Chemical Properties

CAS No.:	17422-90-1
Formula:	C <sub>10</sub> H <sub>12</sub> O <sub>4</sub>
Molecular Weight:	196.2
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

## Biological Description

Description	Methyl 3-(2,4-dihydroxyphenyl)propionate has inhibitory effects on tyrosinase, antioxidant ability, and lightening effect of ultraviolet B (UVB)-induced hyperpigmentation.
Targets(IC <sub>50</sub> )	Others: None
In vitro	<p><b>METHODS AND RESULTS:</b>A novel vitamin E derivative, (6"-hydroxy-2",5",7",8"-tetramethylchroman-2"-yl)Methyl 3-(2,4-dihydroxyphenyl)propionate (TM4R), which has a chromanoxyl ring and 4-substituted resorcinol moieties, was synthesized; and its inhibitory effects on tyrosinase, antioxidant ability, and lightening effect of ultraviolet B (UVB)-induced hyperpigmentation were estimated.Methyl 3-(2,4-dihydroxyphenyl)propionate showed potent inhibitory activity on tyrosinase, which is the rate-limiting enzyme in melanogenesis. The scavenging activities of Methyl 3-(2,4-dihydroxyphenyl)propionate on 1,1-diphenyl-2-picrylhydrazyl and hydroxyl radicals were found to be nearly the same as those of alpha-tocopherol. Furthermore, an efficient lightening effect was observed following topical application of Methyl 3-(2,4-dihydroxyphenyl)propionate to UVB-stimulated hyperpigmented dorsal skin of brownish guinea pigs.</p> <p><b>CONCLUSIONS:</b> These results suggest that Methyl 3-(2,4-dihydroxyphenyl)propionate may be a candidate for an efficient whitening agent, possibly by inhibiting tyrosinase activity and biological reactions caused by reactive oxygen species.</p>

## Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble
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## Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.097 mL	25.484 mL	50.968 mL
5 mM	1.019 mL	5.097 mL	10.194 mL
10 mM	0.510 mL	2.548 mL	5.097 mL
50 mM	0.102 mL	0.510 mL	1.019 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Novel vitamin E derivative with 4-substituted resorcinol moiety has both antioxidant and tyrosinase inhibitory properties. Lipids. 2001 Dec;36(12):1321-6.

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Tel:781-999-4286

E-mail:[info@targetmol.com](mailto:info@targetmol.com)

Address:36 Washington Street,Wellesley Hills,MA 02481