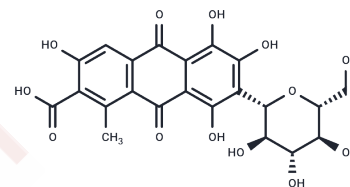


## Carminic acid

## Chemical Properties

CAS No. :	1260-17-9
Formula:	C <sub>22</sub> H <sub>20</sub> O <sub>13</sub>
Molecular Weight:	492.39
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	Carminic acid, the well-known red dyestuff from cochineal insects ( <i>Dactylopius</i> spp.), is a potent feeding deterrent to ants. Carminic acid is an antioxidant to protect erythrocytes and DNA against radical-induced oxidation, it also has antitumor activity.
Targets(IC50)	NF-κB, Nrf2, Interleukin, JNK, ROS
In vitro	Carminic acid, the well-known red dyestuff from cochineal insects ( <i>Dactylopius</i> spp.), is a potent feeding deterrent to ants. This deterrence may be indicative of the natural function of the compound, which may have evolved in cochineals as a chemical weapon against predation. The behavior of an unusual predator is described-the carnivorous caterpillar of a pyralid moth ( <i>Laetilia coccidivora</i> )-which is undeterred by Carminic acid and feeds on cochineals. CONCLUSIONS: The animal has the remarkable habit of utilizing the ingested Carminic acid for defensive purposes of its own.

## Solubility Information

Solubility	DMSO: 123.75 mg/mL (251.33 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: 2.5 mg/mL (5.08 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

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	2.0309 mL	10.1546 mL	20.3091 mL
5 mM	0.4062 mL	2.0309 mL	4.0618 mL
10 mM	0.2031 mL	1.0155 mL	2.0309 mL
50 mM	0.0406 mL	0.2031 mL	0.4062 mL

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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

Red cochineal dye (carminic acid): Its role in nature. *Science*. 1980 May 30;208(4447):1039-42.

Carminic acid: An antioxidant to protect erythrocytes and DNA against radical-induced oxidation. *Journal of Physical Organic Chemistry*, 2009 , 22 (9) :883-7.

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