

Product Name: Gambogic acid

Catalog No.: 3590

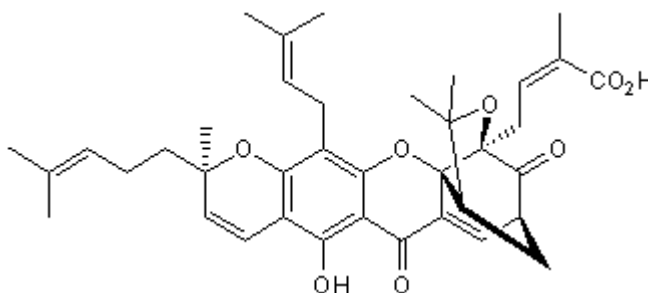
Batch No.: 2

CAS Number: 2752-65-0

IUPAC Name: (2Z)-2-Methyl-4-[(1R,3aS,5S,11R,14aS)-3a,4,5,7-tetrahydro-8-hydroxy-3,3,11-trimethyl-13-(3-methyl-2-butenyl)-11-(4-methyl-3-pentenyl)-7,15-dioxo-1,5-methano-1H,3H,11H-furo[3,4-g]pyrano[3,2-b]xanthen-1-yl]-2-butenic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₃₈H₄₄O₈
Batch Molecular Weight: 628.75
Physical Appearance: Orange solid
Solubility: DMSO to 75 mM
 ethanol to 100 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Optical Rotation: [α]_D = -611 (Concentration = 0.2, Solvent = Chloroform)
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	72.59	7.05	
Found	72.71	7.12	

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Description:

Natural product isolated from the *Garcinia hanburyi* tree. Induces apoptosis in several tumor cell lines including T47D cells. Activates caspases with an EC₅₀ value of 0.78 - 1.64 μM and competitively inhibits antiapoptotic Bcl-2 family proteins (IC₅₀ values are 1.47, 1.21, 2.02, 0.66, 1.06 and 0.79 μM for Bcl-XL, Bcl-2, Bcl-W, Bcl-B, Bfl-1 and Mcl-1 respectively). Also blocks K_{ir}2.1 channels (EC₅₀ ≤ 100 nM).

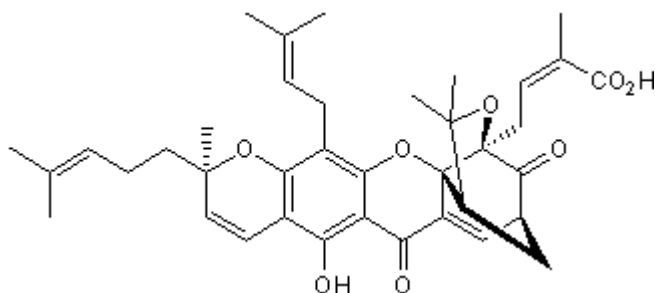
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Solubility & Usage Info:

DMSO to 75 mM
ethanol to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Zhang et al (2004) Discovery, characterization and SAR of gambogic acid as a potent apoptosis inducer by a HTS assay. *Bioorg.Med.Chem.* **12** 309. PMID: 14723951.

Zhai et al (2008) Gambogic acid is an antagonist of antiapoptotic Bcl-2 family proteins. *Mol.Cancer Ther.* **7** 1639. PMID: 18566235.

Qi et al (2008) Anti-invasive effect of gambogic acid in MDA-MB-231 human breast carcinoma cells. *Biochem.Cell Biol.* **86** 386. PMID: 18923540.

Zaks-Makhina et al (2009) Specific and slow inhibition of the Kir2.1 K⁺ channel by Gambogic acid. *J.Biol.Chem.* **284** 15432. PMID: 19366693.

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