

# gamma-Mangostin Datasheet

4<sup>th</sup> Edition (Revised in July, 2016)

## [ Product Information ]

**Name:** gamma-Mangostin

**Catalog No.:** CFN98396

**Cas No.:** 31271-07-5

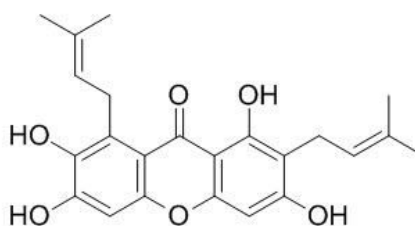
**Purity:** > 98%

**M.F:** C<sub>23</sub>H<sub>24</sub>O<sub>6</sub>

**M.W:** 396.4

**Physical Description:** Yellow powder

**Synonyms:** 1,3,6,7-tetrahydroxy-2,8-bis(3-methylbut-2-enyl)xanthen-9-one; γ-mangostin.



## [ Intended Use ]

1. Reference standards;
2. Pharmacological research;
3. Synthetic precursor compounds;
4. Intermediates & Fine Chemicals;
5. Others.

## [ Source ]

The fruits of *Garcinia mangostana*.

## [ Biological Activity or Inhibitors ]

gamma-Mangostin can competitively inhibit the activities of both COX-1 and -2, it has a

potent inhibitory activity of prostaglandin E2 (PGE2) release induced by A23187, a Ca<sup>2+</sup> ionophore.<sup>[1]</sup>

γ-Mangostin can directly inhibit inhibitor κB (IκB) kinase (IKK) activity and thereby prevents COX-2 gene transcription, an NF-κB target gene, probably to decrease the inflammatory agent-stimulated prostaglandin E2 (PGE2) production in vivo, and is a new useful lead compound for anti-inflammatory drug development.<sup>[2]</sup>

γ-Mangostin shows anticancer activity and induces apoptosis in HT29 colorectal adenocarcinoma cells, suggests that γ-mangostin can serve as a micronutrient for colon cancer prevention and is a potential lead compound for the development of anti-colon cancer agents. <sup>[3]</sup>

Combinations of γ-mangostin with penicillin G can generate synergistic effect against *L. interrogans* serovars Bataviae, Autumnalis and Javanica (FIC=0.52, 0.50, and 0.04, respectively) and no interaction against *L. biflexa* serovar Patoc (FIC =0.75).<sup>[4]</sup>

gamma-Mangostin is a novel competitive antagonist, free from a nitrogen atom, for the 5-HT<sub>2A</sub> receptors in vascular smooth muscles and platelets.<sup>[5]</sup>

gamma-Mangostin exhibits analgesic effects and the ability to scavenge reactive oxygen species.<sup>[6]</sup>

## **[ Solvent ]**

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

## **[ HPLC Method ]<sup>[7]</sup>**

Mobile phase: Methanol-0.2% Formic acid in water, gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: 25 °C;

The wave length of determination: 245 nm.

## **[ Storage ]**

2-8°C, Protected from air and light, refrigerate or freeze.

## **[ References ]**

- [1] Nakatani K, Nakahata N, Arakawa T, *et al. Biochem. Pharmacol.*, 2002, 63(1):73-9.
- [2] Nakatani K, Yamakuni T, Kondo N, *et al. Mol. Pharmacol.*, 2004, 66(3):667-74.
- [3] Chang H F, Yang L L. *Molecules*, 2012, 17(7):8010-21.
- [4] Seesom W, Jaratrungtawee A, Suksamrarn S, *et al. BMC Complemen.Altern.M.*, 2013, 13(1):1-6.
- [5] Chairungsrilerd N, Furukawa K I, Ohta T, *et al. N.-S. Arch. Pharmacol.*, 1997, 357(1): 25-31.
- [6] Cui J, Hu W, Cai Z, *et al. Pharmacol. Biochem. Be.*, 2010, 95(95):166-72.
- [7] Kongkiatpaiboon S, Vongsak B, Machana S, *et al. Journal of King Saud University - Science*, 2016, 28(2):131-5.

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