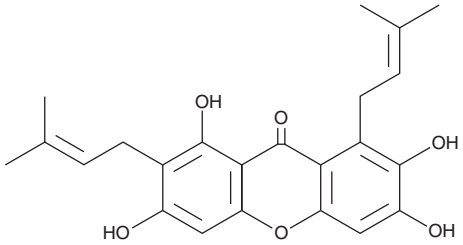
PRODUCT INFORMATION

γ-Mangostin

Item No. 26675

CAS Registry No.:	31271-07-5
Formal Name:	1,3,6,7-tetrahydroxy-2,8-*bis*(3-methyl-2-buten-1-yl)-9H-xanthen-9-one
MF:	$C_{23}H_{24}O_6$
FW:	396.4
Purity:	≥98%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/Mangosteen skin



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

γ-Mangostin is supplied as a crystalline solid. A stock solution may be made by dissolving the γ-mangostin in the solvent of choice. γ-Mangostin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of γ-mangostin in ethanol is approximately 10 mg/ml and approximately 30 mg/ml in DMSO and DMF.

γ-Mangostin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, γ-mangostin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. γ-Mangostin has a solubility of approximately 0.02 mg/ml in a 1:40 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

γ-Mangostin is a xanthone that has been found in *G. mangostana* and has diverse biological activities.[1-4] It scavenges 2,2-diphenyl-1-picrylhydrazyl (DPPH; Item No. 14805) radicals *in vitro* with an IC_{50} value of 23.6 µM.[1] γ-Mangostin is cytotoxic to HL-60, SMMC-7721, A549, MCF-7, and SW480 cancer cells and BEAS-2B non-cancerous pulmonary epithelial cells *in vitro* (IC_{50}s = 7.39, 6.57, 10.07, 5.33, 8.4, and 7.43 µM, respectively).[2] It inhibits LPS-induced expression of IL-6, IL-10, and TNF-α in human macrophages in a concentration-dependent manner.[3] Macrophage-conditioned media from macrophages pre-incubated with γ-mangostin (30 µM) prior to stimulation with LPS has a reduced ability to induce inflammation and insulin resistance in primary human adipocytes. γ-Mangostin (5 and 10 mg/kg) inhibits carbon tetrachloride-induced increases in serum levels of aspartate transaminase (AST) and alanine aminotransferase (ALT) and decreases in hepatic superoxide dismutase 2 (SOD2) activity and glutathione (GSH) content in a mouse model of liver fibrosis.[4]

References

1. Li, X. Comparative study of 1,1-diphenyl-2-picryl-hydrazyl radical (DPPH•) scavenging capacity of the antioxidant xanthones family. *ChemistrySelect* **3(46)**, 13081-13086 (2018).
2. Chi, X.-Q., Zi, C.-T., Li, H.-M., *et al.* Design, synthesis and structure–activity relationships of mangostin analogs as cytotoxic agents. *RSC Adv.* **8(72)**, 41377-41388 (2018).
3. Bumrungpert, A., Kalpravidh, R.W., Chuang, C.-C., *et al.* Xanthones from mangosteen inhibit inflammation in human macrophages and in human adipocytes exposed to macrophage-conditioned media. *J. Nutr.* **140(4)**, 842-847 (2010).
4. Wang, A., Zhou, F., Li, D., *et al.* γ-Mangostin alleviates liver fibrosis through Sirtuin 3-superoxide-high mobility group box 1 signaling axis. *Toxicol. Appl. Pharmacol.* **363**, 142-153 (2019).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM