

Product Data Sheet

Product Name: Yangonin

Cat. No.: GC31809

Chemical Properties

Cas. No. 500-62-9

SMILES O=C1C=C(OC)C=C(/C=C/C2=CC=C(OC)C=C2)O1

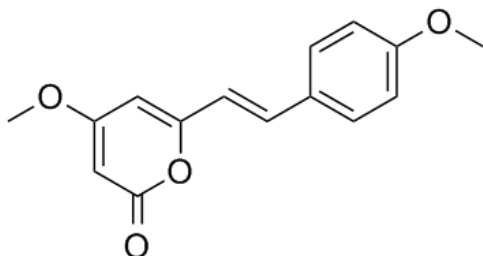
Formula $C_{15}H_{14}O_4$ M.Wt 258.27

Solubility DMF: 5 mg/ml, DMSO: 5 mg/ml, DMSO:PBS(pH 7.2) (1:2): 0.3 mg/ml
Storage 4°C, protect from light

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Protocol

Caution: Product has not been fully validated for medical applications. For research use only.

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Cell experiment: HeLa cells are seeded at 1×10^5 cells/mL in 96-well plates containing 100 μ L of DMEM medium with 10% FBS and incubated overnight. Yangonin is dissolved in DMSO and DMSO is added to all plates to compensate the same volume of DMSO. After 24 h, the cells are pretreated with different concentrations of Yangonin (0.1-3 μ M) for 1 h, followed by stimulation with or without TNF- α for 24 h. Subsequently, cells are cultured with MTT solution (5 mg/mL) for 3 h. The viable cells convert MTT to formazan, which generates a blue-purple color after dissolving in 150 μ L of DMSO. The absorbance at 570 nm is measured by an ELISA plate reader[2].

References:

- [1]. Ligresti A, et al. Kavalactones and the endocannabinoid system: the plant-derived yangonin is a novel CB1 receptor ligand. *Pharmacol Res.* 2012 Aug;66(2):163-9.
- [2]. Ma J, et al. Yangonin blocks tumor necrosis factor- α -induced nuclear factor- κ B-dependent transcription by inhibiting the transactivation potential of the RelA/p65 subunit. *J Pharmacol Sci.* 2012;118(4):447-54.
- [3]. Wruck CJ, et al. Kavalactones protect neural cells against amyloid beta peptide-induced neurotoxicity via extracellular signal-regulated kinase 1/2-dependent nuclear factor erythroid 2-related factor 2 activation. *Mol Pharmacol.* 2008 Jun;73(6):1785-95.

Background

Yangonin exhibits affinity for the human recombinant cannabinoid CB1 receptor with an IC₅₀ and a K_i of 1.79 ± 0.53 μ M and 0.72 ± 0.21 μ M, respectively.

Yangonin is one of the six major kavalactones found in *Piper methysticum*. Yangonin potently inhibits NF- κ B activation through suppression of the transcriptional activity of the RelA/p65 subunit of NF- κ B. Yangonin significantly inhibits the induced expression of the NF- κ B-reporter gene. However, Yangonin does not interfere with TNF- α -induced inhibitor of κ B α (I κ B α) degradation, p65 nuclear translocation, and DNA-binding activity of NF- κ B. Yangonin inhibits not only the induced NF- κ B activation by overexpression of RelA/p65, but also transactivation activity of RelA/p65. Yangonin does not inhibit TNF- α -induced activation of p38, but it significantly impairs activation of ERK 1/2 and

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stress-activated protein kinase/JNK[2].

[1]. Ligresti A, et al. Kavalactones and the endocannabinoid system: the plant-derived yangonin is a novel CB1 receptor ligand. *Pharmacol Res.* 2012 Aug;66(2):163-9. [2]. Ma J, et al. Yangonin blocks tumor necrosis factor- α -induced nuclear factor- κ B-dependent transcription by inhibiting the transactivation potential of the RelA/p65 subunit. *J Pharmacol Sci.* 2012;118(4):447-54. [3]. Wruck CJ, et al. Kavalactones protect neural cells against amyloid beta peptide-induced neurotoxicity via extracellular signal-regulated kinase 1/2-dependent nuclear factor erythroid 2-related factor 2 activation. *Mol Pharmacol.* 2008 Jun;73(6):1785-95.

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