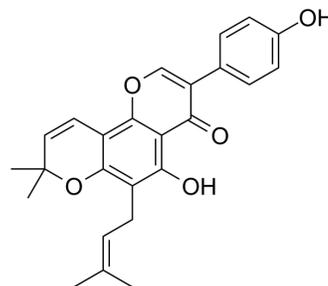


Osajin

Cat. No.:	HY-N3125
CAS No.:	482-53-1
Molecular Formula:	C ₂₅ H ₂₄ O ₅
Molecular Weight:	404.46
Target:	Apoptosis
Pathway:	Apoptosis
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



BIOLOGICAL ACTIVITY

Description	Osajin is the major bioactive isoflavone present in the fruit of <i>Maclura pomifera</i> with antitumor, antioxidant and anti-inflammatory activities.
IC₅₀ & Target	Apoptosis ^[1]
In Vitro	Osajin significantly decreases the viability of human NPC cells (TW076, CG1 and TW04 cells) in a dose-dependent manner. Osajin induces apoptosis in human NPC cells through multiple apoptotic pathways, including the extrinsic death receptor pathway, and intrinsic pathways relying on mitochondria and endoplasmic reticulum stress ^[1] . Osajin exhibits growth inhibitory activity on six human cancer cell lines, including kidney, lung, prostate, breast, melanoma and colon cancer cells [2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Osajin and pomiferin attenuates the myocardial dysfunction provoked by ischemia reperfusion. This is confirmed by an increase in both antioxidant enzyme values and total antioxidant activity. The cardioprotection provided by osajin and pomiferin treatment results from the suppression of oxidative stress and this correlates with improved ventricular function [3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay ^[1]	NPC cells are seeded in 96-well plates (5000/well) and allowed to adhere for 24 h. The medium is then substituted by a fresh one containing different concentrations (0.01–10 μM) of osajin for another 24 h. For the time-course assay, the incubation times with 5 μM of osajin are 6, 12, 24, 36 and 48 h. After incubation, 10 μl of 5 mg/ml of MTT is added to each well and incubated for 4 h at 37°C. Cell viability is determined using the MTT-based assay ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration ^[1]	Rats ^[1] The Wistar rats are divided into four groups. The first treatment group receives osajin (5 mg/kg/day in 0.5% Avicel); the second treatment group receives pomiferin (5 mg/kg/day in 0.5% Avicel); the placebo group receives only 0.5 Avicel; the last is an untreated control group. Biochemical indicator of oxidative damage-lipid peroxidation product malondialdehyde,

antioxidant enzymes-superoxide dismutase, glutathione peroxidase, total antioxidant activity in serum and myocardium are evaluated. The effect of osajin and pomiferin on cardiac function, left ventricular end-diastolic pressure, left ventricular pressure and peak positive +dP/dt ischemia and reperfusion, also is examined^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Huang TT, et al. Activation of multiple apoptotic pathways in human nasopharyngeal carcinoma cells by the prenylated isoflavone, osajin. *PLoS One*. 2011 Apr 12;6(4):e18308.
- [2]. Son IH, et al. Pomiferin, histone deacetylase inhibitor isolated from the fruits of *Maclura pomifera*. *Bioorg Med Chem Lett*. 2007 Sep 1;17(17):4753-5.
- [3]. Florian T, et al. Effects of prenylated isoflavones osajin and pomiferin in premedication on heart ischemia-reperfusion. *Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub*. 2006 Jul;150(1):93-100.

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

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