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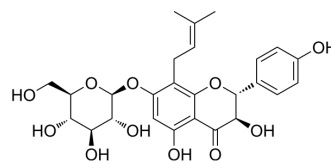
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Phellamurin

Cat. No.:	HY-N3085		
CAS No.:	52589-11-4		
Molecular Formula:	C ₂₆ H ₃₀ O ₁₁		
Molecular Weight:	518.51		
Target:	P-glycoprotein; Apoptosis		
Pathway:	Membrane Transporter/Ion Channel; Apoptosis		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



BIOLOGICAL ACTIVITY

Description	Phellamurin is a plant flavonone glycoside from the leaves of Phellodendron amurense and inhibits intestinal P-glycoprotein. Phellamurin also inhibits egg laying by Papilio protenor. Phellamurin induces cells apoptosis and has anti-tumor activity ^[1] [2][3].																
In Vitro	<p>Phellamurin (0-10 µg/mL; 48 hours; U2OS and Saos-2 cells) treatment leads to a repression of cell viability in U2OS and Saos-2 cells in a dose-dependent manner^[1].</p> <p>Phellamurin (0-10 µg/mL; 48 hours; U2OS and Saos-2 cells) treatment concentration-dependently promotes the apoptosis of U2OS and Saos-2 cells^[1].</p> <p>Phellamurin (0-10 µg/mL; 48 hours; U2OS and Saos-2 cells) treatment declines the ratios of p-PI3K/PI3K, p-AKT/AKT, and p-mTOR/mTOR in U2OS and Saos-2 cells^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Viability Assay^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>U2OS and Saos-2 cells</td> </tr> <tr> <td>Concentration:</td> <td>0 µg/mL, 2.5 µg/mL, 5 µg/mL, and 10 µg/mL</td> </tr> <tr> <td>Incubation Time:</td> <td>48 hours</td> </tr> <tr> <td>Result:</td> <td>Suppressed the viability of U2OS and Saos-2 cells in a concentration-dependent manner.</td> </tr> </table> <p>Apoptosis Analysis^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>U2OS and Saos-2 cells</td> </tr> <tr> <td>Concentration:</td> <td>0 µg/mL, 2.5 µg/mL, 5 µg/mL, and 10 µg/mL</td> </tr> <tr> <td>Incubation Time:</td> <td>48 hours</td> </tr> <tr> <td>Result:</td> <td>Induced apoptosis of U2OS and Saos-2 cells in a concentration-dependent manner.</td> </tr> </table> <p>Western Blot Analysis^[1]</p>	Cell Line:	U2OS and Saos-2 cells	Concentration:	0 µg/mL, 2.5 µg/mL, 5 µg/mL, and 10 µg/mL	Incubation Time:	48 hours	Result:	Suppressed the viability of U2OS and Saos-2 cells in a concentration-dependent manner.	Cell Line:	U2OS and Saos-2 cells	Concentration:	0 µg/mL, 2.5 µg/mL, 5 µg/mL, and 10 µg/mL	Incubation Time:	48 hours	Result:	Induced apoptosis of U2OS and Saos-2 cells in a concentration-dependent manner.
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Result:	Induced apoptosis of U2OS and Saos-2 cells in a concentration-dependent manner.																

	Cell Line:	U2OS and Saos-2 cells
	Concentration:	0 µg/mL and 10 µg/mL
	Incubation Time:	48 hours
	Result:	Repressed the PI3K/AKT/mTOR pathway in U2OS and Saos-2 cells.
In Vivo	Phellamurin (50 mg/kg/day; intraperitoneal injection; daily; for 21 days; female BALB/c nude mice) treatment represses osteosarcoma tumor growth in vivo. The ratios of p-PI3K/PI3K, p-AKT/AKT, and p-mTOR/mTOR are decreased in xenograft in Phellamurin-treated mice ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	Athymic female BALB/c nude mice (6 weeks old) injected with U2OS cells ^[1]
	Dosage:	50 mg/kg/day
	Administration:	Intraperitoneal injection; daily; for 21 days
	Result:	Repressed osteosarcoma tumor growth in vivo.

REFERENCES

- [1]. Hongzhi Zhang, et al. Anti-tumor Efficacy of Phellamurin in Osteosarcoma Cells: Involvement of the PI3K/AKT/mTOR Pathway. *Eur J Pharmacol.* 2019 Sep 5;858:172477.
- [2]. Hung-Yi Chen, et al. Marked Decrease of Cyclosporin Absorption Caused by Phellamurin in Rats. *Planta Med.* 2002 Feb;68(2):138-41.
- [3]. Keiichi Honda, et al. Synergistic or Antagonistic Modulation of Oviposition Response of Two Swallowtail Butterflies, *Papilio Maackii* and *P. Protenor*, to Phellodendron *Amurense* by Its Constitutive Prenylated Flavonoid, Phellamurin. *J Chem Ecol.* 2011 Jun;37(6):575-81.

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

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