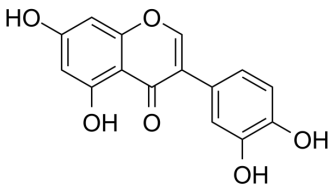
Orobol

Cat. No.:	HY-N3127
CAS No.:	480-23-9
Molecular Formula:	$C_{15}H_{10}O_6$
Molecular Weight:	286.24
Target:	Casein Kinase; PI3K
Pathway:	Cell Cycle/DNA Damage; Stem Cell/Wnt; PI3K/Akt/mTOR
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Orobol is one of the major soy isoflavones and has various pharmacological activities, including anti-skin-aging and anti-obesity effects. Orobol inhibits CK1ε, VEGFR2, MAP4K5, MNK1, MUSK, TOPK, and TNIK (IC_{50}=1.24-4.45 μM). Orobol also inhibits PI3K isoforms (IC_{50}=3.46-5.27 μM for PI3K α/β/γ/K/δ)[1][2].

In Vitro

Orobol binds to CK1ε in an ATP-competitive manner and exerts anti-obesity effects by targeting casein kinase 1 epsilon[2]. Orobol (5-20 μM) effectively suppresses MDI (isobutylmethylxanthine, dexamethasone and insulin (MDI))-induced phosphorylation of 4E-BP1[2].

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

In Vivo

Orobol attenuates high fat diet-induced weight gain and lipid accumulation without affecting food intake in C57BL/6J mice [2].

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Animal Model:	HFD-induced obesity in C57BL/6J mice[2]
Dosage:	10 mg/kg
Administration:	Intragastrically; daily for 23 weeks
Result:	Significantly reduced body weight by 17.3% compared to the HFD group.

REFERENCES

[1]. Kim MH, et al. Lipid Nanoparticles for Enhancing the Physicochemical Stability and Topical Skin Delivery of Orobol. Pharmaceutics. 2020;12(9):845. Published 2020 Sep 3.

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

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