Norathyriol

Cat. No.: HY-N1029

CAS No.: 3542-72-1

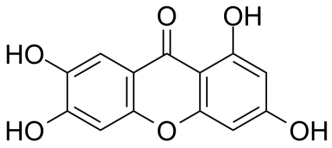
Molecular Formula: $C_{13}H_8O_6$

Molecular Weight: 260.2

Target: Glucosidase; PPAR

Pathway: Metabolic Enzyme/Protease; Cell Cycle/DNA Damage

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Norathyriol (Mangiferitin) is a natural metabolite of Mangifera. Norathyriol inhibits α-glucosidase in a noncompetitive manner with an IC_{50} of 3.12 μM[1]. Norathyriol inhibits PPARα, PPARβ, and PPARγ with IC_{50}s of 92.8 μM, 102.4 μM, and 153.5 μM, respectively[2]. Antioxidant, anticancer, antimicrobial, anti-inflammatory, anti-bacterial activities.

IC_{50} & Target

PPARα	PPARβ	PPARγ
92.8 μM (IC_{50})	102.4 μM (IC_{50})	153.5 μM (IC_{50})

In Vitro

Norathyriol (1-25 μM) inhibits growth by inducing cell cycle arrest in JB6 P+ cells. Norathyriol inhibits JB6 cell growth by inducing G2-M arrest[3].

Norathyriol suppresses UVB-induced phosphorylation of ERKs, AP-1 and NF-κB activation in JB6 P+ cells[3]Cell Growth Assay WB

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

Cell Viability Assay[3]

Cell Line:	Mouse skin epidermal JB6 P+ cells
Concentration:	0, 1, 10, or 25 μM
Incubation Time:	24 or 72 hours
Result:	Inhibited cell growth in a dose- as well as time-dependent manner but does not cause cell death.

Western Blot Analysis[3]

Cell Line:	JB6 P+ cells
Concentration:	0, 1, 10, or 25 μM
Incubation Time:	2 hours
Result:	Inhibited UVB-induced phosphorylation of ERKs and p90RSK.

In Vivo

Norathyriol is a natural metabolite of Mangifera in the human intestine with the oral availability and safety[1].

Norathyriol (0.92, 1.85 and 3.7 mg/kg) dose dependently decreased the serum urate levels by 27.0, 33.6 and 37.4%,

respectively[4].

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

Animal Model:	Adult Kunming mice weighing 18-22 g[4]
Dosage:	0.92, 1.85 and 3.7 mg/kg
Administration:	Administered intragastrically; twice daily for five times
Result:	The serum uric acid levels were decreased by 27.0%, 33.6% and 37.4%.

REFERENCES

[1]. Zhi-Long Shi, et al. In Vitro and In Vivo Effects of Norathyriol and Mangiferin on α-Glucosidase. Biochem Res Int. 2017;2017:1206015.

[2]. Ashley S Wilkinson,et al. Effects of the mango components mangiferin and quercetin and the putative mangiferin metabolite norathyriol on the transactivation of peroxisome proliferator-activated receptor isoforms. J Agric Food Chem. 2008 May 14;56(9):3037-42.

[3]. Jixia Li, et al. Norathyriol suppresses skin cancers induced by solar ultraviolet radiation by targeting ERK kinases. Cancer Res. 2012 Jan 1;72(1):260-70.

[4]. Yanfen Niu, et al. Hypouricaemic action of mangiferin results from metabolite norathyriol via inhibiting xanthine oxidase activity. Pharm Biol. 2016 Sep;54(9):1680-6.

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