Urolithin B

Cat. No.: HY-126307

CAS No.: 1139-83-9

Molecular Formula: $C_{13}H_8O_3$

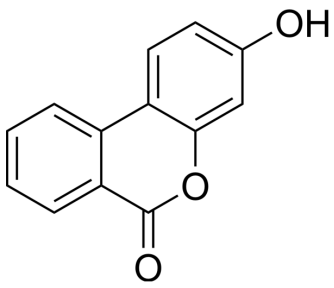
Molecular Weight: 212.2

Target: NF-κB; JNK; ERK; Akt; AMPK; Endogenous Metabolite

Pathway: NF-κB; MAPK/ERK Pathway; Stem Cell/Wnt; PI3K/Akt/mTOR; Epigenetics; Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (1178.13 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	4.7125 mL	23.5627 mL	47.1254 mL
	5 mM	0.9425 mL	4.7125 mL	9.4251 mL
	10 mM	0.4713 mL	2.3563 mL	4.7125 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (9.80 mM); Suspended solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (9.80 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Urolithin B is one of Ellagitannins' slow microbial products, and has anti-inflammatory and anti-inflammatory effects. Urolithin B suppresses NF-κB activity. Urolithin B suppresses JNK, ERK and Akt's oxidation, and increases AMPK's oxidation. Urolithin B is also a quantitative change factor for bone and skin quality.

IC_{50} & Target

Human Endogenous Metabolite

In Vitro

Urolithin B (30-100 μM; 24 h) shows anti-inflammatory effects in LPS-stimulated BV2 microglia by modulating pro- and anti-inflammatory molecule. Such like that suppressing NF-κB and AP-1 signaling in LPS-stimulated BV2 cells, and also upregulating AMPK and downregulating the Akt, JNK, and ERK signaling pathway[1].

	Urolithin B (15 μM; 24 h) enhances the growth and differentiation of C2C12 muscle ducts by increasing protein synthesis and inhibiting the ubiquitin-proteasome pathway[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Urolithin B (50 mg/kg; ip; once daily for 4 days) inhibits microglial activation in LPS-injected mouse brains, under neuroinflammatory condition[1]. Urolithin B (10 μg/day; mini-osmotic pump delivery, 28 days) induces muscle hypertrophy and reduces muscle atrophy after sciatic nerve transection in mice[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Biochim Biophys Acta Mol Basis Dis. 2024 Feb 13:167056.
- J Cell Mol Med. 2022 Jul 3.
- Research Square Preprint. 2021 Oct.

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REFERENCES

[1]. Lee G, et al. Anti-inflammatory and antioxidant mechanisms of urolithin B in activated microglia. Phytomedicine. 2019 Mar 1;55:50-57.

[2]. Rodriguez J, et al. Urolithin B, a newly identified regulator of skeletal muscle mass. J Cachexia Sarcopenia Muscle. 2017 Aug;8(4):583-597.

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