Data Sheet (Cat.No.T7174)

TargetMol

Urolithin A

Chemical Properties

CAS No. :	1143-70-0
Formula:	C13H8O4
Molecular Weight:	228.2
Storage:	Keep away from direct sunlight Powder: -20°C for 3 years | In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

Biological Description

Description	Urolithin A is a natural product, a metabolite of ellagic acid, which inhibits DNA synthesis and induces apoptosis and autophagy. Urolithin A exhibits antioxidant, anti-inflammatory and antitumor activities.
Targets(IC50)	Apoptosis,Reactive Oxygen Species,Endogenous Metabolite,Autophagy,DNA/RNA Synthesis,Drug Metabolite,ROS
In vitro	**METHODS**: Human colorectal cancer cells SW620 were treated with Urolithin A (0-30 μM) for 24 h. Cell viability was measured by MTT assay. **RESULTS**: A dose-dependent decrease in proliferation was observed in Urolithin A-treated cells. [1] **METHODS**: Human colorectal cancer cells HT29, SW480 and SW620 were treated with Urolithin A (20-100 μM) for 48 h, and the expression levels of target proteins were detected by Western Blot. **RESULTS**: Treatment of CRC cells with different concentrations of Urolithin A resulted in a significant increase in Cyclin B1 and CDK6, suggesting a strong cell cycle accumulation in G2/M phase. [2]
In vivo	**METHODS**: To investigate the effects on Alzheimer's disease (AD), Urolithin A (300 mg/kg, 0.5% carboxymethylcellulose) was administered orally once daily for 14 days to APP/PS1 mouse models. **RESULTS**: Urolithin A ameliorated cognitive deficits, prevented neuronal apoptosis, and enhanced neurogenesis in APP/PS1 mice.Urolithin A attenuated Aβ deposition and periplaque microglia and astrocyte hyperplasia in the cortex and hippocampus. Urolithin A affects key cell signaling pathways, particularly by enhancing brain AMPK activation, decreasing activation of P65NF-κB and P38MAPK, and inhibiting degradation of Bace1 and APP. [3]

Solubility Information

Solubility	DMSO: 242.5 mg/mL (1062.66 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (21.91 mM),Solution. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and*

In vivo Formulation	*used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.3821 mL	21.9106 mL	43.8212 mL
5 mM	0.8764 mL	4.3821 mL	8.7642 mL
10 mM	0.4382 mL	2.1911 mL	4.3821 mL
50 mM	0.0876 mL	0.4382 mL	0.8764 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Zhao W, et al. Metabolite of ellagitannins, urolithin A induces autophagy and inhibits metastasis in human sw620 colorectal cancer cells. Mol Carcinog. 2018 Feb;57(2):193-200.
Xu M, Xu J, Kang L, et al.Urolithin A promotes atherosclerotic plaque stability by limiting inflammation and hypercholesteremia in Apolipoprotein E-deficient mice.Acta Pharmacologica Sinica.2024: 1-13.
El-Wetidy MS, et al. Urolithin A induces cell cycle arrest and apoptosis by inhibiting Bcl-2, increasing p53-p21 proteins and reactive oxygen species production in colorectal cancer cells. Cell Stress Chaperones. 2021 May;26 (3):473-493.
Gong Z, et al. Urolithin A attenuates memory impairment and neuroinflammation in APP/PS1 mice. J Neuroinflammation. 2019 Mar 14;16(1):62.