

Juglone

Chemical Properties

CAS No. : 481-39-0

Formula: C₁₀H₆O₃

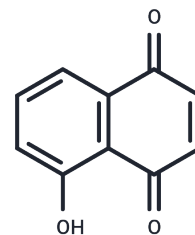
Molecular Weight: 174.15

Keep away from direct sunlight, Store at low temperature, The compound is unstable in solution.

Storage: Please use soon

Powder: -20°C for 3 years

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Juglone (Regianin) is a natural naphthoquinone found in the black walnut (<i>J. nigra</i>) and other plants in the Juglandaceae family. Juglone also irreversibly inhibits peptidyl-prolyl cis/trans isomerases of the parvulin family, including human Pin1, yeast Ess1/Ptf1, and <i>E. coli</i> parvulin (K _i = 55.9 nM). Juglone also blocks transcription by RNA polymerases I, II, and III (IC ₅₀ s = 2-7 μM) and attenuates kidney fibrosis in rats treated with unilateral ureteral obstruction, both through Pin1-independent mechanisms.
Targets(IC ₅₀)	Apoptosis, NF-κB, Antibacterial, DNA/RNA Synthesis, TLR

Solubility Information

Solubility	DMSO: 5.56 mg/mL (31.93 mM), The compound is unstable in solution. Please use soon. (DMSO inactivates the activity of Juglone.) Ethanol: 16.33 mg/mL (93.77 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.7422 mL	28.7109 mL	57.4218 mL
5 mM	1.1484 mL	5.7422 mL	11.4844 mL
10 mM	0.5742 mL	2.8711 mL	5.7422 mL
50 mM	0.1148 mL	0.5742 mL	1.1484 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

Hennig L, et al. Selective inactivation of parvulin-like peptidyl-prolyl cis/trans isomerases by juglone. *Biochemistry*. 1998 Apr 28;37(17):5953-60.

Chao SH, et al. Juglone, an inhibitor of the peptidyl-prolyl isomerase Pin1, also directly blocks transcription. *Nucleic Acids Res*. 2001 Feb 1;29(3):767-73.

Reese S, et al. The Pin 1 inhibitor juglone attenuates kidney fibrogenesis via Pin 1-independent mechanisms in the unilateral ureteral occlusion model. *Fibrogenesis Tissue Repair*. 2010 Jan 4;3:1.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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