

Regiolone

Chemical Properties

CAS No.:	137494-04-3
Formula:	C10H10O3
Molecular Weight:	178.18
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

Biological Description

Description	Regiolone demonstrates phytotoxicity. Regiolone also has anti-proliferative and apoptotic activities, it can induce apoptosis in MCF-7 cells through the caspase-3 independent pathway.
Targets(IC ₅₀)	Caspase: None
In vitro	<p>METHODS AND RESULTS:As a candidate for bioherbicide, 4,8-dihydroxy-1-tetralone (4,8-DHT) was isolated from <i>Caryospora callicarpa</i> epicarp and its two enantiomers, S-(+)-isosclerone and R-(-)-Regiolone, were separated by chiral high-performance liquid chromatography (HPLC) on a Chiralcel OD column with chiral stationary phase (CSP)-coated cellulose-tris(3,5-dimethylphenylcarbamate). Then, the phytotoxicity of 4,8-DHT and its enantiomers toward the seeds germination and seedling growth of the five tested plant species, including lettuce (<i>Latuca sativa</i>), radish (<i>Raphanus sativus</i>), cucumber (<i>Cucumis sativus</i>), onion (<i>Allium cepa</i>), and wheat (<i>Triticum aestivum</i>), were investigated and the results indicated a hormesis at low concentration of 4,8-DHT and its enantiomers, but a retardant effect at high concentration. CONCLUSIONS: Between the two enantiomers of 4,8-DHT, the S-(+)-isosclerone was more toxic to seeds germination and seedling growth of the five tested plant species than the R-(-)-Regiolone, and also the phytotoxicity of S-(+)-isosclerone varied with different plants. For example, S-(+)-isosclerone was the most active to seedling growth of lettuce, indicating that S-(+)-isosclerone had specific effects on different organisms. Thus, all of the chirality and concentration of 4,8-DHT, as well as the affected plant species, need to be taken into consideration in the development and utilization of 4,8-DHT.</p>

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.612 mL	28.062 mL	56.123 mL
5 mM	1.122 mL	5.612 mL	11.225 mL
10 mM	0.561 mL	2.806 mL	5.612 mL
50 mM	0.112 mL	0.561 mL	1.122 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Enantioselective Separation of 4,8-DHT and Phytotoxicity of the Enantiomers on Various Plant Species. *Molecules*. 2016 Apr 22;21(4):528.
2. Anti-proliferative and apoptotic activities of constituents of chloroform extract of *Juglans regia* leaves. *Cell Prolif*. 2014 Apr;47(2):172-9.
3. Botrytone, a new naphthalenone pentaketide produced by *Botrytis fabae*, the causal agent of chocolate spot disease on *Vicia faba*. *J Agric Food Chem*. 2011 Sep 14;59(17):9201-6.

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