

1,2-Dihydrotanshinquinone

Chemical Properties

| | |
|-------------------|--|
| CAS No.: | 77769-21-2 |
| Formula: | C ₁₈ H ₁₄ O ₃ |
| Molecular Weight: | 278.3 |
| Appearance: | N/A |
| Storage: | 0-4°C for short term (days to weeks), or -20°C for long term (months). |

Biological Description

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|----------------------------|---|
| Description | 1,2 Dihydrotanshinquinone is active against both <i>Trypanosoma brucei rhodesiense</i> and <i>Plasmodium falciparum</i> . |
| Targets(IC ₅₀) | Antifection: None |
| In vitro | In a medium throughput screen of 880 plant and fungal extracts for antiprotozoal activity, a dichloromethane extract of <i>Salvia miltiorrhiza</i> roots was active against both <i>Trypanosoma brucei rhodesiense</i> and <i>Plasmodium falciparum</i> . METHODS AND RESULTS: With HPLC-based activity profiling in combination with on- and off-line spectroscopic methods (PDA, -MS (n), HR-MS, microprobe NMR), the active compounds were identified as tanshinone-type diterpenoids. Subsequent isolation and structure elucidation yielded the known substances miltirone (1), tanshinone II a (2), 1,2-Dihydrotanshinquinone(3), methylenetanshinquinone (4), 1-oxomiltirone (5), 11-hydroxymiltiodiol (6), tanshinone I (7), methyltanshinonate (8), and cryptotanshinone (9). The IC ₅₀ s of the compounds were determined against the two parasites and rat myoblast (L6) cells. CONCLUSIONS: They ranged from 4.1 µM to over 30 µM against <i>P. falciparum</i> K1 strain with selectivity indices (SI) from 0.3 to 1.9. IC ₅₀ s against <i>T. brucei rhodesiense</i> STIB 900 were from 0.5 µM (1, 4) to over 30 µM, and 4 showed the greatest selective activity with an SI of 24. |

Solubility Information

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

| | 1mg | 5mg | 10mg |
|-------|----------|-----------|-----------|
| 1 mM | 3.593 mL | 17.966 mL | 35.932 mL |
| 5 mM | 0.719 mL | 3.593 mL | 7.186 mL |
| 10 mM | 0.359 mL | 1.797 mL | 3.593 mL |
| 50 mM | 0.072 mL | 0.359 mL | 0.719 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. Antiplasmodial and antitrypanosomal activity of tanshinone-type diterpenoids from *Salvia miltiorrhiza*. *Planta Med.*, 2011, 77(14):1594-6.

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