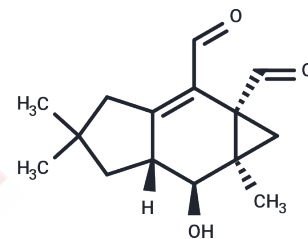


## Merulidial

## Chemical Properties

|                   |   |
|-------------------|---|
| CAS No. :         | 68053-32-7  |
| Formula:          | C <sub>15</sub> H <sub>20</sub> O <sub>3</sub>  |
| Molecular Weight: | 248.32  |
| Storage:          | Powder: -20°C for 3 years   In solvent: -80°C for 1 year<br>Actual storage temperature shall be subject to the COA. |



## Biological Description

|               |  |
|---------------|--|
| Description   | Merulidial (Compound 1) is an antibiotic and cytotoxic agent characterized by a sesquiterpene dialdehyde structure. It effectively inhibits the spore germination and mycelial growth of the wood-decaying basidiomycete <i>Heterobasidion annosum</i> ( <i>H. annosum</i> ) and the saprophytic fungus <i>Cladosporium cucumerinum</i> ( <i>C. cucumerinum</i> ). Additionally, Merulidial suppresses DNA synthesis in various bacteria, algae, and ECA cells. It exhibits strong anticancer activity, with IC <sub>50</sub> values of 20 µg/mL for ECA cells and 10 µg/mL for L1210 cells.   |
| Targets(IC50) | Antibacterial, Antibiotic, Antifungal, DNA/RNA Synthesis   |
| In vitro      | Merulidial (Compound 1), at a concentration of 25 mg/mL, significantly inhibits the growth of mycelium over 3-5 days, forming inhibition zones of 4-7 mm in width for [ <i>C. cucumerinum</i> ] and 15-19 mm for [ <i>H. annosum</i> ]. Additionally, Merulidial at 6.3-25 µg/mL over 24 hours strongly hinders the germination of [ <i>H. annosum</i> ] mycelial spores at concentrations of 12.5 and 25 µg/mL, and delays germination at 6.3 µg/mL, while it has a weaker effect on [ <i>C. cucumerinum</i> ], delaying spore germination by at least 48 hours. In the Ames test, Merulidial (50 µg/plate) demonstrates mutagenic activity against mutant strains TA98, TA2637, and TA100, with mutation rates of 0.62, 0.28, and 1.5 revertants/nmol, respectively. |

### Preparing Stock Solutions

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|       | <b>1mg</b> | <b>5mg</b> | <b>10mg</b> |
|-------|------------|------------|-------------|
| 1 mM  | 4.0271 mL  | 20.1353 mL | 40.2706 mL  |
| 5 mM  | 0.8054 mL  | 4.0271 mL  | 8.0541 mL   |
| 10 mM | 0.4027 mL  | 2.0135 mL  | 4.0271 mL   |
| 50 mM | 0.0805 mL  | 0.4027 mL  | 0.8054 mL   |

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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.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

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