

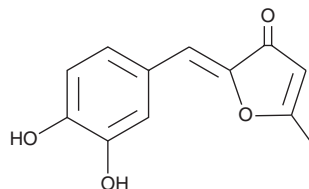
# PRODUCT INFORMATION



## Inotilone

Item No. 10010089

**CAS Registry No.:** 906366-79-8  
**Formal Name:** (2Z)-2-[(3,4-dihydroxyphenyl)methylene]-5-methyl-3(2H)-furanone  
**MF:** C<sub>12</sub>H<sub>10</sub>O<sub>4</sub>  
**FW:** 218.2  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 246, 265, 386 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Inotilone is supplied as a crystalline solid. A stock solution may be made by dissolving the inotilone in the solvent of choice, which should be purged with an inert gas. Inotilone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of inotilone in ethanol is approximately 1 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Inotilone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, inotilone should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Inotilone has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Inotilone is a cyclooxygenase (COX) inhibitor found in mushrooms of *Phellinus* and *Inonotus* sps. that inhibits COX-2 over COX-1 with IC<sub>50</sub> values of 0.03 and 0.36 μM, respectively.<sup>1,2</sup> It is a poor inhibitor of hydroxysteroid dehydrogenase and xanthine oxidase (IC<sub>50</sub>s = 50.4 and 9.1 μM, respectively).<sup>1,2</sup> Inotilone demonstrates anti-inflammatory, antiviral, and antioxidant effects in various experimental models.<sup>3-5</sup>

### References

1. Wangun, H.V.K., Härtl, A., Kiet, T.T., *et al.* Inotilone and related phenylpropanoid polyketides from *Inonotus* sp. and their identification as potent COX and XO inhibitors. *Organic & Biomolecular Chemistry* **4**, 2545-2548 (2006).
2. Shamshina, J.L. and Snowden, T.S. Convergent synthesis of potent COX-2 inhibitor inotilone. *Tetrahedron Letters* **48**, 3767-3769 (2007).
3. Huang, G.-J., Huang, S.-S., and Deng, J.-S. Anti-inflammatory activities of inotilone from *Phellinus linteus* through the inhibition of MMP-9, NF-κB, and MAPK activation *in vitro* and *in vivo*. *PLoS One* **7(5)**, e35922 (2012).
4. Hwang, B.S., Lee, M.-S., Lee, S.W., *et al.* Neuraminidase inhibitors from the fermentation broth of *Phellinus linteus*. *Mycobiology* **42(2)**, 189-192 (2014).
5. Lee, M.-S., Hwang, B.S., Lee, I.-K., *et al.* Chemical constituents of the culture broth of *Phellinus linteus* and their antioxidant activity. *Mycobiology* **43(1)**, 43-48 (2015).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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