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**Product Data Sheet**

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Product Name: Inotilone  
Cat. No.: GC13042

**Chemical Properties**

Cas. No. 906366-79-8

Chemical Name (2Z)-2-[(3,4-dihydroxyphenyl)methylene]-5-methyl-3(2H)-furanone

SMILES OC1=CC=C(/C=C2OC(C)=CC(=O)C=C1O)C=C1O

Formula  $C_{12}H_{10}O_4$

M.Wt 218.2

Solubility  $\leq 1\text{mg/ml}$  in ethanol;  $30\text{mg/ml}$  in DMSO;  $30\text{mg/ml}$  in dimethyl formamide

Storage Store at -  
20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure

**Background**

IC50: 0.03 and 0.36  $\mu\text{M}$  for COX-2 and COX-1, respectively

Inotilone is a cyclooxygenase (COX) inhibitor.

Many of nonsteroidal anti-inflammatory drugs (NSAIDs) target cyclooxygenases (COX), which catalyze the first two steps in the biosynthesis of the prostaglandins from the substrate arachidonic acid.

In vitro: Inotilone was tested as the inhibitor of mitogen-activated protein kinase, nuclear factor- $\kappa\text{B}$  (NF- $\kappa\text{B}$ ), and matrix-metalloproteinase (MMP)-9 protein expressions in LPS-stimulated RAW264.7 cells. When RAW264.7 macrophages were treated with inotilone with LPS, a significant concentration-dependent inhibition of NO production was detected. It was also found that inotilone could block the protein expression of iNOS, NF- $\kappa\text{B}$ , and MMP-9 in LPS-stimulated RAW264.7 macrophages [1].

**Caution: Product has not been fully validated for medical applications. For research use only.**

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In vivo: In in vivo tests, inotilone decreased the paw edema after Carr administration, and it increased the activities of catalase (CAT), superoxide dismutase (SOD), and glutathione peroxidase (GPx). Inotilone also significantly attenuated the malondialdehyde (MDA) level in the edema paw. Inotilone decreased the NO and tumor necrosis factor (TNF- $\alpha$ ) levels on serum after Carr injection. In addition, an intraperitoneal injection treatment with inotilone could diminish neutrophil infiltration into sites of inflammation, as did indomethacin [1].

Clinical trial: So far, no clinical study has been conducted.

### Reference:

[1] Huang GJ, Huang SS, Deng JS. Anti-inflammatory activities of inotilone from *Phellinus linteus* through the inhibition of MMP-9, NF- $\kappa$ B, and MAPK activation in vitro and in vivo. *PLoS One*. 2012;7(5):e35922.

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