

## Miltirone Datasheet

4<sup>th</sup> Edition (Revised in July, 2016)

### [ Product Information ]

**Name:** Miltirone

**Catalog No.:** CFN98531

**Cas No.:** 27210-57-7

**Purity:** > 98%

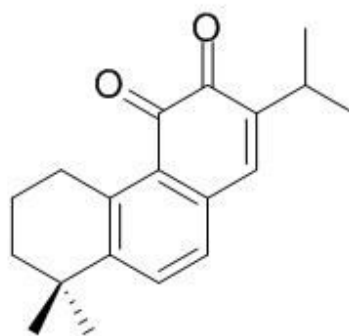
**M.F:** C<sub>19</sub>H<sub>22</sub>O<sub>2</sub>

**M.W:** 282.38

**Physical Description:** Red powder

**Synonyms:** 5,6,7,8-Tetrahydro-8,8-dimethyl-2-(1-methylethyl)-3,4-phenanthrenedione;

5,6,7,8-Tetrahydro-2-isopropyl-8,8-dimethyl-3,4-phenanthrenedione; Rosmariquinone.



### [ Intended Use ]

1. Reference standards;
2. Pharmacological research;
3. Synthetic precursor compounds;
4. Intermediates & Fine Chemicals;
5. Others.

### [ Source ]

The root of *Salvia miltiorrhiza* Bge.

## **[ Biological Activity or Inhibitors ]**

Miltirone is one of the bioactive diterpene quinones isolated from *Salvia miltiorrhiza* Bunge, possesses significant anticancer, antibacterial, antioxidant, and anti-inflammatory activities, the hepatocyte metabolism is the major route of clearance for miltirone. <sup>[1]</sup>

Miltirone has antiprotozoal activity against *T. brucei rhodesiense* STIB 900. <sup>[2]</sup>

Miltirone has been characterized as a low-affinity ligand for central benzodiazepine receptors, it might ameliorate the symptoms associated with discontinuation of long-term administration of ethanol or of other positive modulators of the GABA A receptor; it is the likely active constituent of *S. miltiorrhiza* responsible for the reducing effect of its extracts on alcohol intake in different experimental models of excessive alcohol consumption. <sup>[3,4]</sup>

Miltirone is a CYPs inhibition, the inhibition is weaker than dihydrotanshinone, but stronger than cryptotanshinone, tanshinone I and tanshinone IIA. <sup>[5]</sup>

Miltirone may exert its antileukemic activity by inducing apoptosis through a ROS-dependent destructive cycle involving ER stress and mitochondrial dysfunction. <sup>[6]</sup>

Miltirone is collateral sensitive in multidrug-resistant P-gp-overexpressing cells, induces G2/M arrest, and triggers apoptosis via ROS-generated breakdown of MMP and DNA damage, therefore, miltirone may be a promising candidate for cancer chemotherapy. <sup>[7]</sup>

## **[ Solvent ]**

Chloroform, Dichloromethane, DMSO, Acetone, etc.

## **[ HPLC Method ]<sup>[8]</sup>**

Mobile phase: 0.1% Aqueous formic acid- Acetonitrile, gradient elution;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 281 nm.

## **[ Storage ]**

2-8°C, Protected from air and light, refrigerate or freeze.

## **[ References ]**

- [1] Long G, Li D, Xin D, *et al. J. Pharm. Biomed. Anal.*, 2015, 107:473–9.
- [2] S Ślusarczyk, S Zimmermann, M Kaiser, *et al. Planta Med.*, 2011, 77(14):1594-6
- [3] Colombo G, Serra S, Vacca G, *et al. Alcohol. Clin. Exp. Res.*, 2006, 48(30):754-62.
- [4] Mostallino M C, Mascia M P, Pisu M G, *et al. Eur. J. Pharmacol.*, 2004, 494(2-3):83-90.
- [5] Zhou X, Wang Y, Hu T, *et al. Phytomedicine International Journal of Phytotherapy & Phytopharmacology*, 2013, 20(3-4):367-74.
- [6] Zhou L, Jiang L, Xu M, *et al. Sci. Rep.-UK*, 2016 5(6):20585.
- [7] Wu C F, Efferth T. *J. Nat. Prod.*, 2015, 78(6):1339-47.
- [8] Cao J, Wei Y J, Qi L W, *et al. Biomed. Chromatogr.*, 2008, 22(2):164-72.

## **[ Contact ]**

**Address:**

S5-3 Building, No. 111, Dongfeng Rd.,  
Wuhan Economic and Technological Development Zone,  
Wuhan, Hubei 430056,  
China

**Email:** [info@chemfaces.com](mailto:info@chemfaces.com)

**Tel:** +86-27-84237783

**Fax:** +86-27-84254680

**Web:** [www.chemfaces.com](http://www.chemfaces.com)

**Tech Support:** [service@chemfaces.com](mailto:service@chemfaces.com)