

## Sinomenine Datasheet

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

### [ Product Information ]

**Name:** Sinomenine

**Catalog No.:** CFN99508

**Cas No.:** 115-53-7

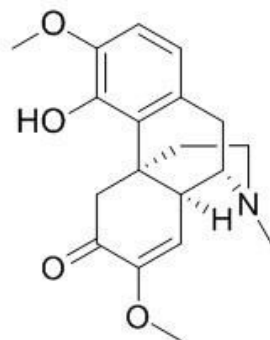
**Purity:** > 98%

**M.F:** C<sub>19</sub>H<sub>23</sub>NO<sub>4</sub>

**M.W:** 329.38

**Physical Description:** Needle cryst

**Synonyms:** 7,8-Didehydro-4-hydroxy-3,7-dimethoxy-17-methyl-9a,13a,14a-Morphinan-6-one.



### [ Intended Use ]

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

### [ Source ]

The herb of *Sinomenium acutum* Rehd. Et Wils.

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

Sinomenine is a pure alkaloid extracted from the Chinese medical plant *Sinomenium acutum*, it has anti-inflammatory and immunosuppressive effects, it can attenuate 2, 4, 6-trinitrobenzene sulfonic acid (TNBS)-induced colitis in mice and the therapeutic mechanism may be related to the reduction of up-regulated colonic TNF- $\alpha$  and IFN- $\gamma$  production caused by TNBS; it also has immunomodulatory effects in the high responder ACI-to-Lewis cardiac allograft model.<sup>[1,2]</sup>

Modulation of dendritic cells differentiation, maturation, and functionality by sinomenine is of potential relevance to its immunomodulatory effects in controlling specific immune responses in autoimmune diseases, transplantation, and other immune-mediated conditions.<sup>[3]</sup>

Sinomenine can induce apoptosis of macrophages through activation of ERK, and ERK activation may partially involve in the increased expression of p27 and Bax in apoptotic macrophages, therefore, induction of macrophage apoptosis through ERK activation may be one of mechanisms by which sinomenine exhibits its immunosuppressive function.<sup>[4]</sup>

Sinomenine has anti-inflammatory and neuroprotective activities through inhibition of microglial NADPH oxidase.<sup>[5]</sup>

Sinomenine has anti-rheumatic effects, it decreases the expression of TNF- $\alpha$  and IL-1 $\beta$  by inhibiting the NF- $\kappa$ B activity, which is mediated through up-regulating the expression of peritoneal macrophages (PMs) and synoviocytes.<sup>[6]</sup>

Sinomenine has anti-angiogenic effect, can inhibit bFGF-induced angiogenesis in vitro and in vivo; the inhibition of leukocytes migration across blood vessel walls and the anti-angiogenic effect of sinomenine may contribute towards its therapeutic mechanisms in alleviating the pathogenesis of rheumatoid arthritis (RA).<sup>[7]</sup>

Sinomenine can prevent galactosamine (GalN)/lipopolysaccharide (LPS) -treated hepatic failure by suppressing TNF production and/or reactive oxygen generation.<sup>[8]</sup>

## **[ Solvent ]**

Chloroform, Dichloromethane, DMSO, Acetone.

## **[ HPLC Method ]**<sup>[9]</sup>

Mobile phase: Methanol-PBS(pH6.8)-Triethylamine =50: 50: 0.1;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 265 nm.

## **[ Storage ]**

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

## **[ References ]**

- [1] Hong C, Bing X, Guo Q, *et al. Int. Immunopharmacol.*, 2007, 7(5):604-11.
- [2] Candinas D, Mark W, Kaever V, *et al. Transplantation*, 1996, 62(12):1855-60.
- [3] Chen Y, Yang C, Jin N, *et al. Int. Immunopharmacol.*, 2007, 7(8):1102-10.
- [4] Xiaobo H, Jianli W, Zhenhong G, *et al. Immunol. Lett.*, 2005, 98(1):91-6.
- [5] Li Q, Xu Z, Wei Z, *et al. J. Neuroinflamm.*, 2007, 4(1):23.
- [6] Yong W, Fang Y, Huang W, *et al. J. Ethnopharmacol.*, 2005, 98(1-2):37-43.
- [7] Kok T W, Yue P Y K, Mak N K, *et al. Angiogenesis*, 2005, 8(1):3-12.
- [8] Kondo Y, Takano F, Yoshida K, *et al. Biochem. Pharmacol.*, 1994, 48(5):1050-2.
- [9] Zhou Y, Guo C, Chen H, *et al. J. Anal. Methods Chem.*, 2015, 2015:931687.

## **[ 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)