

## Oxymatrine Datasheet

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

### [ Product Information ]

**Name:** Oxymatrine

**Catalog No.:** CFN99805

**Cas No.:** 16837-52-8

**Purity:** > 98%

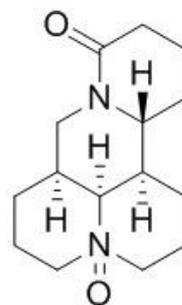
**M.F:** C<sub>15</sub>H<sub>24</sub>N<sub>2</sub>O<sub>2</sub>

**M.W:** 264.4

**Physical Description:** Powder

**Synonyms:**

Ammothamnine; Matrine N-oxide



### [ Intended Use ]

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

### [ Source ]

The root of *Sophora flavescens* Ait

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

Oxymatrine, one of the major components of *Sophora flavescens* ait, has exhibited anti-hepatitis virus infection, anti-hepatic fibrosis, anti-inflammation, anti-anaphylaxis and other immune-regulation, it induces human pancreatic cancer PANC-1 cells apoptosis via regulating expression of Bcl-2 and IAP families, and releasing of cytochrome C.<sup>[1]</sup>

Oxymatrine is proven to protect ischemic and reperfusion injury in liver, intestine and heart, this effect is via anti-inflammation and anti-apoptosis, it has protective effect applies to ischemic injury in brain to reduce infarct volume induced by pMCAO, this effect may be through the decreasing of NF-kappaB expression.<sup>[2]</sup>

Oxymatrine has anti-inflammatory activity, it can reduce the serum levels of TNF- $\alpha$ , IL-6, and the expression of NF- $\kappa$ B and ICAM-1 in colonic mucosa in dextran sulfate sodium (DSS)--induced colitis of rats, indicates that oxymatrine may ameliorate the colonic inflammation and thus alleviate diarrhea and bloody stool.<sup>[3]</sup>

Oxymatrine has a beneficial effect on acute lung injury induced by oleic acid in mice and may inhibit the production of proinflammatory cytokine, TNF-alpha, by means of the inhibition of p38 MAPK.<sup>[4]</sup>

Oxymatrine has inhibition of hepatitis B virus in vivo, it (200 mg/kg/d,20day )can reduce the contents of HBsAg and HBcAg in transgenic miceliver, and longer treatment time and larger dosage do not yield better effects.<sup>[5]</sup>

Oxymatrine can attenuate diabetes-associated cognitive deficits in rats, which is associated with oxidative stress, inflammation and apoptotic cascades.<sup>[6]</sup>

Oxymatrine can induce cell cycle arrest and apoptosis, which makes it a potentially useful agent for targeting cancer cells; it causes a dose-dependent reduction in the proliferation of MCF-7 cells and a decrease in SP cells, the growth inhibitory effects of oxymatrine treatment on MCF-7 cells may be due to the inhibition of SP and Wnt/0205-catenin signaling pathway. <sup>[7]</sup>

Oxymatrine and astragalus polysaccharide can synergistically improve the immune efficacy of Newcastle disease vaccine in chicken, because of astragalus polysaccharide and oxymatrine possesses synergistical immunoenhancement.<sup>[8]</sup>

## **[ Solvent ]**

Pyridine, DMSO, Methanol, Hot water, etc.

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

Mobile phase: Methanol-3% Phosphoric acid H<sub>2</sub>O=80:20;

Flow rate: 1.0 ml/min;

Column temperature: 30 °C;

The wave length of determination: 220 nm.

## **[ Storage ]**

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

## **[ References ]**

- [1] Qi L, Xiao X, Wei X, *et al. J. Exp. Clin. Cancer Res.*, 2011, 30(1):66-66.
- [2] Zhang X J, Yang C H, Fan H G. *Brain Res.*, 2009, 1268:174-80.
- [3] Zheng P, Niu F L, Liu W Z, *et al. World J. Gastroenterol.*, 2005, 11(31):4912-5.
- [4] Lao L, Rao S Y, Gong Z N, *et al. J. Ethnopharmacol.*, 2005, 98(1-2):177-83.
- [5] Xiao, Song, Chen, *et al. World J. Gastroenterol.*, 2001, 7(1):49-52.
- [6] Suo-bin, WANG, Jian-ping. *Acta Pharmacol. Sin.*, 2014, 35(3):331-8.
- [7] Zhang Y, Piao B, Zhang Y, *et al. Med. Oncol.*, 2011, 28(1):99-107.
- [8] Chen Y, Wang D, Hu Y, *et al. Int. J. Biol. Macromol.*, 2010, 46(4):425-8.
- [9] Liu J, Yuan L M, Li-Qin H E, *et al. Chemical World*, 2009, 50(7):410-1.

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