

## Pterostilbene Datasheet

5<sup>th</sup> Edition (Revised in January, 2017)

### [ Product Information ]

**Name:** Pterostilbene

**Catalog No.:** CFN90397

**Cas No.:** 537-42-8

**Purity:** >=98%

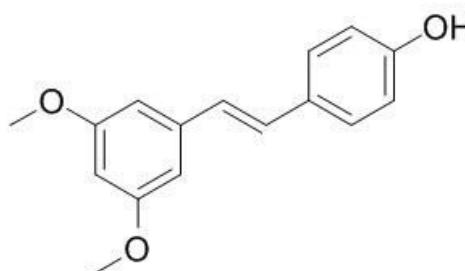
**M.F:** C<sub>16</sub>H<sub>16</sub>O<sub>3</sub>

**M.W:** 256.30

**Physical Description:** Cryst.

**Synonyms:** trans-Pterostilbene; trans-3',5'-Dimethoxy-4-stilbenol;

3,5-Dimethoxy-4'-hydroxy-trans-stilbene; 4-(E)-(2-(3,5-Dimethoxyphenyl)ethenyl)phenol.



### [ Intended Use ]

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

### [ Source ]

The herbs of *Dracaena cochinchinensis* (Lour.) S. C. Chen.

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

trans-Pterostilbene is an antifungal compound, it is a minor component of the phytoalexin response of *V. vinifera*.<sup>[1]</sup>

Pterostilbene possesses anti-inflammatory activity and also to induce apoptosis in various types of cancer cells, pterostilbene down regulates inflammatory iNOS and COX-2 gene expression in macrophages by inhibiting the activation of NFkappaB by interfering with the activation of PI3K/Akt/IKK and MAPK.<sup>[2]</sup>

Pterostilbene can induce inhibition of Bcl-2 expression in metastatic cells, which sensitizes them to vascular endothelium-induced cytotoxicity, it also can inhibit metastatic melanoma growth and extends host survival.<sup>[3]</sup>

Pterostilbene acts as a peroxisome proliferator-activated receptor alpha (PPARalpha) agonist and may be a more effective PPARalpha agonist and hypolipidemic agent than resveratrol, it possesses lipid and glucose lowering effects.<sup>[4]</sup>

Pterostilbene has antioxidative potential, it shows moderate inhibition ( $IC_{50} = 19.8 \text{ microM}$ ) of cyclooxygenase (COX)-1, and is weakly active ( $IC_{50} = 83.9 \text{ microM}$ ) against COX-2.<sup>[5]</sup>

Pterostilbene may protect HUVECs against oxLDL-induced apoptosis by downregulating LOX-1-mediated activation through a pathway involving oxidative stress, p53, mitochondria, cytochrome c and caspase protease, it may be a potential natural anti-apoptotic agent for the treatment of atherosclerosis.<sup>[6]</sup>

## **[ Solvent ]**

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

## **[ HPLC Method ]<sup>[7]</sup>**

Mobile phase: Acetonitrile-1% Glacial acetic acid, gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: 40 °C;

The wave length of determination: 319 nm.

## **[ Storage ]**

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

## **[ References ]**

- [1] Langcake P, Cornford C A, Pryce R J. *Phytochemistry*, 1979, 18(6):1025-7.
- [2] Pan M H, Chang Y H, Tsai M L, *et al. J. Agric. Food Chem.*, 2008, 56(16):7502-9.
- [3] Ferrer P, Asensi M, Segarra R, *et al. Neoplasia*, 2005, 7(1):37-47.
- [4] Agnes M. Rimando , Rangaswamy Nagmani , Dennis R. Feller, *et al. J. Agric. Food Chem.*, 2005, 53(9):3403-7.
- [5] Agnes M. Rimando, Muriel Cuendet, Cristian Desmarchelier, *et al. J. Agric. Food Chem.*, 2002, 50(12):3453-7.
- [6] Zhang L, Zhou G, Song W, *et al. Apoptosis*, 2012, 17(1):25-36.
- [7] Li Y, Xiao W, Qin J, *et al. China Journal of Chinese Materia Medica*, 2012, 37(7): 929-33.

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