*Natural Products*

ChemFaces

# Pinosylvin Datasheet

4th Edition (Revised in July, 2016)

## [ Product Information ]

**Name:** Pinosylvin

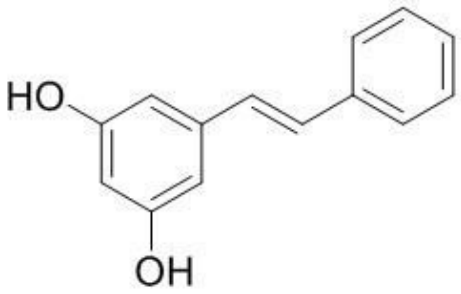
**Catalog No.:** CFN98203

**Cas No.:** 22139-77-1

**Purity:** > 98%

**M.F:** $C_{14}H_{12}O_2$

**M.W:** 212.3




**Physical Description:** Powder

**Synonyms:**5-(2-Phenylethenyl)benzene-1,3-diol;(E)-3,5-Stilbenediol;

trans-3,5-Dihydroxystilbene.

## [ Intended Use ]

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

## [ Source ]

The sapwood of *Pinus resinosa*.

## [ Biological Activity or Inhibitors]

Pinosylvin (PS), extracted from white spruce (Picea glauca), jack pine (Pinus banksiana), and red pine (Pinus resinosa) pine cones, has inhibition against White-Rot and Brown-Rot Fungi.[1]

Pinosylvin-O-methyltransferase represents a new S-adenosyl-l-methionine -dependent O-methyltransferases for the methylation of stress-induced pinosylvin in Scots pine needles.[2]

Pinosylvin administration decreases the number of neutrophils and significantly reduces the amount of reactive oxygen species in blood, it is an effective inhibitor of neutrophil activity, and is potentially useful as a complementary medicine in states associated with persistent inflammation.[3]

Pinosylvin treatment conferres protection against oxidative stress through the induction of HO-1 in human RPE cells, it may possess health-promoting properties against aging-related diseases associated with oxidative stress such as age-related macular degeneration (AMD) and Alzheimer's disease. [4]

Pinosylvin exhibits a potential cancer chemopreventive activity and also inhibits the growth of various human cancer cell lines via the regulation of cell cycle progression; it has antimetastatic effect, the effects are coincided with the down-regulation of MMP-9 and cyclooxygenase-2 expression, and phosphorylation of ERK1/2 and Akt ; suggests that it might be an effective inhibitor of tumor cell metastasis via modulation of MMPs.[5]

Pinosylvin suppresses LPS-stimulated inducible nitric oxide synthase expression via the MyD88-independent, but TRIF-dependent downregulation of IRF-3 signaling pathway in mouse macrophage cells.[6]

## [ Solvent ]

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

## [ HPLC Method ][7]

Mobile phase: Methanol -H2O,gradient eiution;

Flow rate: 1.0 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 297 nm.

## [ Storage ]

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

## [ References ]


[1] Celimene C C, Micales J A, Ferge L, *et al. Holzforschung, 1999, 53(5):491-7.*

[2] Chiron H, Drouet A, Claudot A C, *et al. Plant Mol. Biol., 2000, 44(6):733-45.*

[3] Jančinová V, Perečko T, Harmatha J, *et al. Acta Pharmacol. Sin., 2012, 33(10): 1285-92.*

[4] Koskela A, Reinisalo M, Hyttinen J M, *et al. Mol. Vis., 2014, 20(3):760-9.*

[5] Park E J, Park H J, Chung H J, *et al. J. Nutr. Biochem., 2012, 23(8):946-52.*

[6] Park E J, Min H Y, Chung H J, *et al. Cell. Physiol. Biochem., 2011, 27(3-4):353-62.*

[7] Wang L, Zhang Y, Sun X, *et al. J. Liq. Chromatogr. R. T., 2016, 39(8):422-7.*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