

## Norathyriol Datasheet

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

### [ Product Information ]

**Name:** Norathyriol

**Catalog No.:** CFN98468

**Cas No.:** 3542-72-1

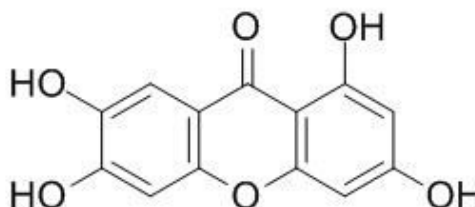
**Purity:** > 95%

**M.F:** C<sub>13</sub>H<sub>8</sub>O<sub>6</sub>

**M.W:** 260.2

**Physical Description:** Yellow powder

**Synonyms:** 1,3,6,7-Tetrahydroxy-9H-xanthen-9-one; 1,3,6,7-Tetrahydroxyxanthen-9-one.



### [ Intended Use ]

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

### [ Source ]

The herbs of *Mangifera indica* L.

### [ Biological Activity or Inhibitors ]

Norathyriol acts as an inhibitor of extracellular signal-regulated kinase (ERK)1/2 activity to attenuate Ultraviolet (UV)B-induced phosphorylation in mitogen-activated protein kinases signaling cascades, norathyriol mediates its chemopreventive activity by inhibiting the ERK-dependent activity of transcriptional factors AP-1 and NF- $\kappa$ B during UV-induced skin carcinogenesis.<sup>[1]</sup>

Norathyriol has a potent anticancer-promoting activity, it exerts a potent chemopreventive activity by inhibiting Akt activation in neoplastic cell transformation.<sup>[2]</sup>

Norathyriol may be a dual, yet weak, cyclooxygenase and lipoxygenase pathway blocker, it has anti-inflammatory effect, and has inhibitory effect on the A23187-induced pleurisy and acetic acid-induced writhing response in mice, which is proposed to be dependent on the reduction of eicosanoids mediators formation in the inflammatory site. <sup>[3]</sup>

Norathyriol can relax the rat thoracic aorta mainly by suppressing the Ca<sup>2+</sup> influx through both voltage-dependent and receptor-operated calcium channels.<sup>[4]</sup>

The small molecule norathyriol is a potent protein tyrosine phosphatase 1B (PTP1B) inhibitor; PTP1B negatively regulates insulin signalling, PTP1B deficiency improves obesity-induced insulin resistance and consequently improves type 2 diabetes in mice, here, the small molecule norathyriol can reverse obesity- and high-fat-diet-induced insulin resistance by inhibiting PTP1B.<sup>[5]</sup>

## **[ Solvent ]**

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

## **[ HPLC Method ]<sup>[6]</sup>**

Mobile phase: Acetonitrile-0.05% Phosphoric acid-Tetrahydrofuran=10:75:15 ;

Flow rate: 0.05 ml/min;

Column temperature: 30 °C;

The wave length of determination: 257 nm.

## **[ Storage ]**

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

## **[ References ]**

- [1] Li J, Malakhova M, Mottamal M, *et al. Cancer Res.*, 2012, 72(1):260-70.
- [2] Li J, Li X, He Z, *et al. J. Cancer Res. Ther.*, 2012, 8(4):561-4.
- [3] Wang J P, Ho T F, Lin C N, *et al. Naunyn. Schmiedeberg's Arch. Pharmacol.*, 1994, 350(1):90-5.
- [4] Ko F N, Lin C N, Liou S S, *et al. Eur. J. Pharmacol.*, 1991, 192(1):133-9.
- [5] Ding H, Zhang Y, Xu C, *et al. Diabetologia*, 2014, 57(10):2145-54.
- [6] Lai L, Lin L C, Lin J H, *et al. J. Chromatogr. A.*, 2003, 987(1-2):367-74.

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