

## Sphondin Datasheet

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

### [ Product Information ]

**Name:** Sphondin

**Catalog No.:** CFN98763

**Cas No.:** 483-66-9

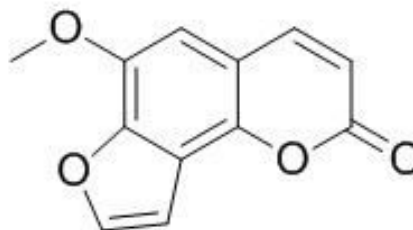
**Purity:** > 98%

**M.F:** C<sub>12</sub>H<sub>8</sub>O<sub>4</sub>

**M.W:** 216.2

**Physical Description:** Powder

**Synonyms:** 6-Methoxy-2-furo[2,3-h][1]benzopyranone.



### [ Intended Use ]

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

### [ Source ]

The fruits of *Heracleum sibiricum* L.

### [ Biological Activity or Inhibitors ]

Sphondin, a furanocoumarin derivative isolated from *Heracleum laciniatum*, possesses an inhibitory effect on IL-1 $\beta$ -induced increase in the level of COX-2 protein and PGE(2) release in A549 cells, the inhibitory mechanism, at least in part, through suppression of NF-kappaB activity, suggests that sphondin may have the therapeutic potential as an anti-inflammatory drug on airway inflammation.<sup>[1]</sup>

Sphondin, 8-methoxypsoralen, and khellin have delayed phototoxic effects in *Aedes aegypti*.<sup>[2]</sup>

Sphondin has NO production inhibitory activity, due to the effect of iNOS expression, but not by direct inhibition of iNOS enzyme activity, thus, sphondin may act as a potent inhibitor of NO production under tissue-damaging inflammatory conditions.<sup>[3]</sup>

Sphondin may have anticonvulsant activity.<sup>[4]</sup>

Sphondin shows anti-proliferative activity and causes G2/M arrest at concentrations of 0.05-15.0  $\mu$ M, it may have anti-tumor effects.<sup>[5]</sup>

## **[ Solvent ]**

Chloroform, Dichloromethane, DMSO, Acetone, etc.

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

Mobile phase: Methanol-3.5% Tetrahydrofuran H<sub>2</sub>O, gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 254 nm.

## **[ Storage ]**

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

## **[ References ]**

[1] Yang L L, Liang Y C, Chang C W, *et al. Life Sci.*, 2002, 72(2):199-213.

- [2] Kagan J, Szczepanski P, Bindokas V, *et al. J. Chem. Ecol.*, 1986, 12(4):899-914.
- [3] Wang C C, Lai J E, Chen L G, *et al. Bioorg. Med. Chem.*, 2000, 8(12):2701-7.
- [4] Tosun F, Çiğdem Akyüz Kızılay, Erol K, *et al. Food Chem.*, 2008, 107(3):990-3.
- [5] Sumiyoshi M, Sakanaka M, Taniguchi M, *et al. J. Nat. Med.*, 2013, 68(1):83-94.
- [6] Fatma M. Al-Barwani, Elsadig A. Eltayeb. *SQU Journal For Science*, 2004,(9): 7-17.

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