

## (Z)-Butylidenephthalide Datasheet

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

### [ Product Information ]

**Name:** (Z)-Butylidenephthalide

**Catalog No.:** CFN96106

**Cas No.:** 72917-31-8

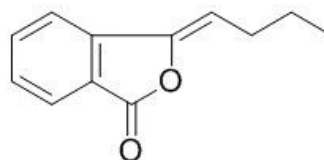
**Purity:** >95%

**M.F:** C<sub>12</sub>H<sub>12</sub>O<sub>2</sub>

**M.W:** 188.22

**Physical Description:** Oil

**Synonyms:** cis-Butylidenephthalide.



### [ Intended Use ]

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

### [ Source ]

The roots of *Angelica sinensis*.

### [ Biological Activity or Inhibitors ]

3-(Z)-butylidenephthalide shows antihyperglycemic activity, it (56.2 mg/kg) decreases

blood glucose levels in NAD-STZ-diabetic mice after an oral sucrose load, suggesting that its antihyperglycemic effect is due to inhibition of  $\alpha$ -glucosidase at the intestinal level; it also inhibit the activity of yeast- $\alpha$ -glucosidase (IC(50) 2.35 mM) in a noncompetitive fashion with a K(i) of 4.86 mM .<sup>[1]</sup>

(Z)-Butylidenephthalide(Bdph) can restore temozolomide sensitivity to temozolomide-resistant malignant glioma cells by downregulating expression of the DNA repair enzyme MGMT.<sup>[2]</sup>

(Z)-Butylidenephthalide was reported to more potently inhibit electrically induced twitch responses than acetylcholine-induced tonic contraction in isolated guinea-pig ileum (GPI).<sup>[3]</sup>

(Z)-Butylidenephthalide has antitumor effects, because of the limitation of the blood-brain barrier, the Bdph dosage required for treatment of glioma is relatively high; a local-release system with Bdph incorporated into a biodegradable polyanhydride material, p(CPP-SA; Bdph-Wafer) can deliver a sufficient concentration of Bdph to the tumor site and effectively inhibit the tumor growth in the glioma.<sup>[4]</sup>

## **[ Solvent ]**

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

## **[ HPLC Method ]<sup>[5]</sup>**

Mobile phase: Chloroform-n-Nexane=50:50 ;

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] Brindis F, Rodríguez R, Bye R, *et al.* *J. Nat. Prod.*, 2011, 74(3):314-20.
- [2] Yen S Y, Harn H J, Lin S Z, *et al.* *Eur. J. Cancer*, 2012, 48( 5):S220-1.
- [3] Chen M, Ko W C. *Archiv Für Experimentelle Pathologie Und Pharmakologie*, 2016, 389(2):159-66.
- [4] Harn H J, Lin S Z, Lin P C, *et al.* *Neuro-Oncol.*, 2011, 13(6):635-48.
- [5] Ko W C, Yang J Y, Chen C M. *J. Chromatogr. B* , 1996, 685(2):379-82.

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