

## Certificate of Analysis

[www.tocris.com](http://www.tocris.com)

**Product Name:**  $\beta$ -Lapachone

**Catalog No.:** 1293

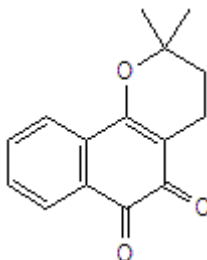
**Batch No.:** 2

**CAS Number:** 4707-32-8

**IUPAC Name:** 3,4-Dihydro-2,2-dimethyl-2H-naphtho[1,2-b]pyran-5,6-dione

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>15</sub>H<sub>14</sub>O<sub>3</sub>  
**Batch Molecular Weight:** 242.27  
**Physical Appearance:** Red solid  
**Solubility:** DMSO to 100 mM  
 ethanol to 50 mM  
**Storage:** Store at +4°C  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**Melting Point:** Between 153 - 154°C  
**HPLC:** Shows 99.3% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	74.36	5.82	
Found	74.44	5.84	

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

## Product Information

[www.tocris.com](http://www.tocris.com)

**Product Name:**  $\beta$ -Lapachone

**Catalog No.:** 1293

**Batch No.:** 2

**CAS Number:** 4707-32-8

**IUPAC Name:** 3,4-Dihydro-2,2-dimethyl-2H-naphtho[1,2-b]pyran-5,6-dione

### Description:

DNA topoisomerase I inhibitor. Exhibits a different inhibitory mechanism to camptothecin (Cat. No. 1100). Induces apoptosis in a variety of cell lines, including prostate cancer and promyelocytic leukemia cells; blocks the cell cycle in G<sub>0</sub>/G<sub>1</sub>. Also has effects on DNA topoisomerase II, NF- $\kappa$ B, AP-1, and JNK.

### Physical and Chemical Properties:

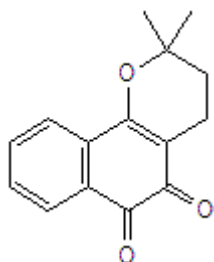
Batch Molecular Formula: C<sub>15</sub>H<sub>14</sub>O<sub>3</sub>

Batch Molecular Weight: 242.27

Physical Appearance: Red solid

**Minimum Purity:** >98%

### Batch Molecular Structure:



**Storage:** Store at +4°C

### Solubility & Usage Info:

DMSO to 100 mM

ethanol to 50 mM

### Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

### References:

**Li et al** (1993) Beta-Lapachone, a novel topoisomerase I inhibitor with a mode of action different from camptothecin. *J.Biol.Chem.* **268** 22463. PMID: 8226754.

**Wuerzberger et al** (1998) Induction of apoptosis in MCF-7:WS8 breast cancer cells by  $\beta$ -Lapachone. *Cancer Res.* **58** 1876. PMID: 9581828.

**Manna et al** (1999) Suppression of tumor necrosis factor-activated nuclear transcription factor- $\kappa$ B, activator protein-1, c-Jun N-terminal kinase, and apoptosis by  $\beta$  lapachone. *Biochem.Pharmacol.* **57** 763. PMID: 10075082.

**Shiah et al** (1999) Activation of c-Jun NH<sub>2</sub>-terminal kinase and subsequent CPP32/Yama during topoisomerase inhibitor  $\beta$ -lapachone-induced apoptosis through an oxidation-dependent pathway *Cancer Res.* **59** 391. PMID: 9927052.

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

**bio-techne.com**

info@bio-techne.com

techsupport@bio-techne.com

**North America**

Tel: (800) 343 7475

**China**

info.cn@bio-techne.com

Tel: +86 (21) 52380373

**Europe Middle East Africa**

Tel: +44 (0)1235 529449

**Rest of World**

[www.tocris.com/distributors](http://www.tocris.com/distributors)

Tel: +1 612 379 2956