

## Certificate of Analysis

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**Product Name:** Curcumin

CAS Number: 458-37-7

IUPAC Name: (1E,6E)-1,7-Bis(4-hydroxy-3-methoxyphenyl)-1,6-heptadiene-3,5-dione

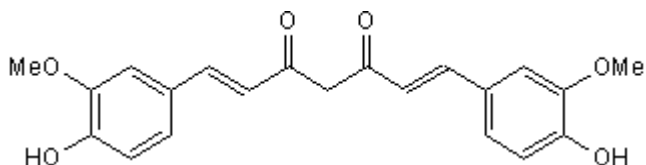
**Catalog No.:** 2841

EC Number: 207-280-5

**Batch No.:** 1

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>21</sub>H<sub>20</sub>O<sub>6</sub>  
**Batch Molecular Weight:** 368.38  
**Physical Appearance:** Orange yellow solid  
**Solubility:** DMSO to 10 mM  
ethanol to 5 mM  
**Storage:** Store at -20°C  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**Melting Point:** At 177°C  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure

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

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**Description:**

Antitumor, anti-inflammatory and antioxidant agent. Downregulates expression of reactive-oxygen-generating enzymes (cyclooxygenase, lipoxygenase, iNOS), TNF $\alpha$ , IL-1, IL-6, PKC, EGFR, NF- $\kappa$ B, I $\kappa$ B kinase and more. Upregulates expression of PPAR $\gamma$ , p53, Nrf2. Also displays antimicrobial, antidiabetic neuro- and cardioprotective properties in vivo.

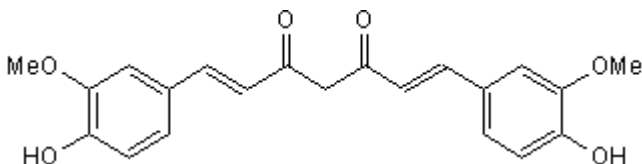
**Physical and Chemical Properties:**

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**References:**

**Kuttan et al** (2007) Antitumour, anti-invasion, and antimetastatic effects of curcumin. *Adv.Exp.Med.Biol.* **595** 173. PMID: 17569210.

**Cole et al** (2007) Neuroprotective effects of curcumin. *Adv.Exp.Med.Biol.* **595** 197. PMID: 17569212.

**Lin** (2007) Molecular targets of curcumin. *Adv.Exp.Med.Biol.* **595** 227. PMID: 17569214.

**Miriyala et al** (2007) Cardioprotective effects of curcumin. *Adv.Exp.Med.Biol.* **595** 359. PMID: 17569220.

**Aggarwal and Sung** (2009) Pharmacological basis for the role of curcumin in chronic diseases: an age-old spice with modern targets. *TiPS* **30** 85. PMID: 19110321.

**Storage:** Store at -20°C

**Solubility & Usage Info:**

DMSO to 10 mM

ethanol to 5 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.

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