

# Curcumin

**Catalog No: tcsc1490**



## Available Sizes

**Size:** 100mg

**Size:** 500mg



## Specifications

**CAS No:**

458-37-7

**Formula:**

$C_{21}H_{20}O_6$

**Pathway:**

Epigenetics;Autophagy;Epigenetics;NF-κB;Autophagy

**Target:**

Epigenetic Reader Domain;Autophagy;Histone Acetyltransferase;Keap1-Nrf2;Mitophagy

**Purity / Grade:**

>98%

**Solubility:**

DMSO :72.0 mg/mL (195.5 mM)

Ethanol: Insoluble

Water: Insoluble

**Storage Instruction:**

Powder -20°C for 3 years; Insolvent -80°C for 12 months

**Alternative Names:**

Turmeric yellow; Natural Yellow 3; Diferuloylmethane

**Observed Molecular Weight:**

368.38

## Notes

Formulation: 5%DMSO+10%PEG300+5%Tween80+80%water 4 mg/mL

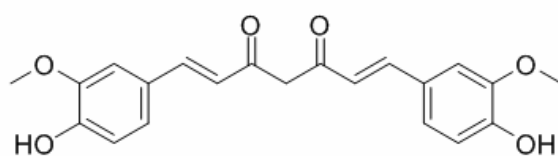
## Product Description

Curcumin is a natural phenolic compound with diverse pharmacologic effects including anti-inflammatory, antioxidant, antiproliferative and antiangiogenic activities. Curcumin is an inhibitor of p300 histone acetyltransferase (**(HATs)**) and also shows inhibitory effects on **NF-κB** and **MAPKs**.

IC<sub>50</sub> & Target: Keap1-Nrf2<sup>[1]</sup>, Histone acetyltransferase<sup>[6]</sup>

**In Vitro:** Curcumin exerts its chemopreventive effects partly through the activation of nuclear factor (erythroid-2 related) factor 2 (Nrf2) and its antioxidant and phase II detoxifying enzymes<sup>[1]</sup>. Curcumin inhibits T47D cells growth, with IC<sub>50</sub>s of 25, 19 and 17.5 μM for 24, 48 and 72 h MTT assays respectively. IC<sub>50</sub>s of curcumin and silibinin mixture against T47D cells, are 17.5, 15, and 12 μM for 24, 48, and 72 h exposure times, respectively<sup>[2]</sup>. Curcumin (2.5-80 μM) induces apoptotic cell death in AGS and HT-29 cell lines, and the IC<sub>50</sub> is 21.9±0.1, 40.7±0.5 μM, respectively, in both AGS and HT-29 cell lines. Curcumin-induced apoptosis requires caspase activities in AGS and HT-29 cells. Curcumin induces ER Ca<sup>2+</sup> decline and mitochondrial Ca<sup>2+</sup> overloading<sup>[3]</sup>. Curcumin induces the G2/M cell cycle arrest of LNCaP and PC-3 cells in a dose dependent manner. Curcumin upregulates the protein level of NF-kappaB inhibitor IkappaBalpha and downregulates protein levels of c-Jun and AR<sup>[5]</sup>.

**In Vivo:** Curcumin (10 mg/kg, p.o.) significantly prevents decrease in the percentage of sucrose consumption, as compared to the CMS-exposed rats. Curcumin treatment results in significant prevention of increase in TNF-α and IL-6 levels in stressed rats<sup>[4]</sup>. Curcumin decreases binding of p300/CREB-binding protein (CBP) at the brain-derived neurotrophic factor (BDNF) promoter at 20 mg/kg (i.p.), reduces binding of P300/CBP at the BDNF promoter at 40 mg/kg, and decreases binding all the four proteins of p300/CBP and H3K9ac/H4K5ac at the BDNF promoter at 60 mg/kg in chronic constriction injury (CCI) rats<sup>[6]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!