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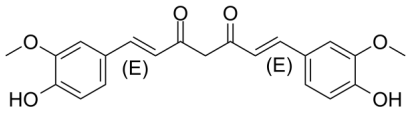
Certificate of Analysis

Catalog Number	BP22526
Product Name	Curcumin

Physical and Chemical Properties

CAS No.	458-37-7
Chemical Formula	C21H20O6
Molecular Weight	368.38
Solubility	DMSO: 120 mg/mL (325.75 mM, Need ultrasonic)
Storage	Powder: -20°C for 2 years In solvent: -80°C for 1 year
Chemical Structure OR Tested Image	

Product Information

Description	Curcumin (Diferuloylmethane), a natural phenolic compound, is a p300/CREB-binding protein-specific inhibitor of acetyltransferase, represses the acetylation of histone/nonhistone proteins and histone acetyltransferase-dependent chromatin transcription. Curcumin shows inhibitory effects on NF-κB and MAPKs, and has diverse pharmacologic effects including anti-inflammatory, antioxidant, antiproliferative and antiangiogenic activities. Curcumin induces stabilization of Nrf2 protein through Keap1 cysteine modification.
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. Curcumin inhibits T47D cells growth, with IC50s of 25, 19 and 17.5 μM for 24, 48 and 72 h MTT assays respectively. IC50s of curcumin and silibinin mixture against T47D cells, are 17.5, 15, and 12 μM for 24, 48, and 72 h exposure times, respectively. Curcumin (2.5-80 μM) induces apoptotic cell death in AGS and HT-29 cell lines, and the IC50 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 Ca2+ decline and mitochondrial Ca2+ overloading. 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.
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. 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.

Analytical Data

HPLC	Shows Min >99% purity
H-NMR	Consistent with structure

Stability and Solubility Advice	Information on product stability, especially in solution, has rarely been reported and in most cases we can only provide a general guideline. We recommend that once the stock solution has been prepared, it be stored in equal quantities in sealed vials and used within 1 month. Avoid repeated freezing and thawing cycles. Storage conditions for some special products should be referred to their storage details.

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