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# Data Sheet

**Product Information**

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| Catalog Number | BP22526 |
| Product Name | Curcumin |
| 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. |

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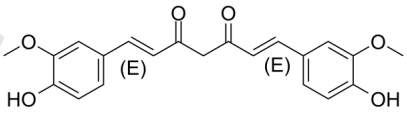
| In vivo | Curcumin (10 mg/kg, p.o.) significantly prevents decrease in the percentage of sucrose consumption, as compared to the CMS-exposed rats. Curcumin treatment results in significant prevention of increase in TNF-α and IL-6 levels in stressed rats. Curcumin decreases binding of p300/CREB-binding 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. |
| 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<br>In solvent: -80°C for 1 year |
| Chemical Structure<br>OR<br>Tested Image |  |

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