Demethoxycurcumin displays anticancer, antioxidative, anti-inflammatory, antibacterial, and neuroprotective activities. Demethoxycurcumin activates AMPK, inhibiting eukaryotic initiation factor 4E binding protein 1 (eIF4E-bp3) and downregulating HSP70 and EGFR in vitro. Like other similar compounds, demethoxycurcumin may indirectly inhibit EGFR activation. Demethoxycurcumin also inhibits STAT3 activation and increases activity of caspase 3 in vitro, inhibiting cell proliferation, migration, and invasion in several cancer cell lines. Demethoxycurcumin downregulates reactive oxygen species (ROS)-related signaling in vitro as well. This compound inhibits phosphorylation of tau proteins and may inhibit acetylcholinesterase (AChE) activity in vitro, suggesting potential benefit in the treatment of Alzheimer’s disease. Demethoxycurcumin may also be a potential treatment for vascular injury, as it decreases expression of matrix metalloproteinase 2/9 and downregulates PI3K/Akt and ERK1/2 signaling, preventing migration of vascular smooth muscle cells in vitro. This compound also displays antibacterial activity against Mycobacterium tuberculosis.

References


Caution: This product is intended for laboratory and research use only. It is not for human or drug use.