Asiatic acid is a triterpene aglycone originally found in Centella; it exhibits cardioprotective, hepatoprotective, anti-inflammatory, antioxidative, antihypertensive, anticancer, anti-fibrotic, and anti-osteoporotic activities. In vitro and in vivo, asiatic acid inhibits TGF-β1-induced and overload-induced cardiac hypertrophy, decreasing production of TGF-β1 and activation of NF-κB, ERK1/2, and p38 MAPK. In high fat diet-fed rats, asiatic acid decreases expression of NF-κB, p38 MAPK, IL-1β, ROS, IL-6, and TNF-α and increases activity of glutathione peroxidase and catalase, preventing hepatic steatosis. Additionally, asiatic acid inhibits L-NAME-induced hypertension, increasing levels of NO and improving vascular function. In multiple myeloma cells, this compound induces G2/M phase cell cycle arrest, decreases expression of FAK, and inhibits cell proliferation. Asiatic acid inhibits adipogenesis, suppresses activation of G3PDH, and modulates differentiation in bone marrow stromal cells. In animal models of fibrosis, this compound decreases tubular injury and fibroblast activation by suppressing activation of Smad2/3, regulating PPARγ activation, and decreasing levels of α-SMA and TGF-β1. It appears to be the most active ingredient in the extract of Centella asiatica.

References


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