Ellagic acid is a phenol found in various fruits that exhibits neuroprotective, anti-angiogenic, anti-inflammatory, anti-asthma, anti-allergic, anti-viral, antioxidant, anti-parasitic, antimalarial, anticancer, and anti-ulcerative activities. Ellagic acid inhibits HIF-1α-induced PI3K/Akt and VEGF/VEGFR2 signaling, downregulates expression of HDAC6, and suppresses neovascularization and angiogenesis in vitro and in vivo. In animal models of OVA-induced allergy, ellagic acid decreases eosinophil infiltration, Th2 cytokine release, IgE levels, and NF-κB activation, preventing airway hyperresponsiveness. In vitro, ellagic acid upregulates expression of HDAC9 and decreases differentiation of adipocytes. This compound inhibits proliferation of *Plasmodium* and *Rhinovirus*. In animal models of inflammation, ellagic acid increases levels of glutathione and IL-10 and decreases levels of NO, maldionaldehyde, IL-1β, TNF-α, COX-2, and NF-κB. In pancreatic adenocarcinoma cells, this compound suppresses cellular proliferation and induces apoptosis. Ellagic acid also inhibits the formation of ulcers in animal models.

References


Beserra AM, Calegari PI, Souza Mdo C, et al. Gastroprotective and ulcer-healing mechanisms of ellagic acid in experimental...