

**ABSTRACT:**

The in vivo and in vitro mechanistic anti-inflammatory actions of cucurbitacin E (CE) (*Citrullus lanatus* var. *citroides*) were examined. The results showed that LPS/INF- $\gamma$  increased NO production in RAW264.7 macrophages, whereas L-NAME and CE curtailed it. CE did not reveal any cytotoxicity on RAW264.7 and WRL-68 cells. CE inhibited both COX enzymes with more selectivity toward COX-2. Intraperitoneal injection of CE significantly suppressed carrageenan-induced rat's paw edema. ORAC and FRAP assays showed that CE is not a potent ROS scavenger. It could be concluded that CE is potentially useful in treating inflammation through the inhibition of COX and RNS but not ROS.