Diclofenac is a non-steroidal anti-inflammatory drug (NSAID) that is clinically used to treat inflammation associated with arthritis and gout as well as other pain or inflammatory disorders; it is somewhat selective in inhibiting COX-2 over COX-1. Diclofenac exhibits anti-inflammatory, antipyretic, analgesic, antinociceptive, anticonvulsant, anti-angiogenic, anticancer chemotherapeutic, and chemopreventive activities. In vitro, the anticonvulsant/antiepileptic activity of diclofenac may stem from inhibition of delayed rectifier K+ channel amplitude and acceleration of channel inactivation; it also increases the amplitude of M-type K+ channels. This compound inhibits DMH-induced colon carcinogenesis in vivo, decreasing levels of COX-2, VEGF, and MCP-1. Diclofenac also decreases the epithelial-to-mesenchymal transition (EMT), suppressing squamous cell carcinoma tumor growth.

References