Polymer-encapsulated Luteolin Nanoparticle

National Cancer Institute

Source

National Cancer Institute. Polymer-encapsulated Luteolin Nanoparticle. NCI Thesaurus. Code C150508.

A nanoparticle formulation containing the poorly water-soluble naturally-occurring flavonoid luteolin encapsulated within a water-soluble polymer, with potential anti-oxidant, anti-inflammatory, apoptosis-inducing and chemopreventive activities. Upon administration of the polymer-encapsulated luteolin nanoparticle, luteolin scavenges free radicals, protects cells from reactive oxygen species (ROS)-induced damage and induces direct tumor cell cycle arrest and apoptosis in tumor cells. This inhibits tumor cell proliferation and suppresses metastasis. Compared to luteolin alone, encapsulation increases the delivery of luteolin to the tumor cells by protecting the drug against clearance and degradation, increases blood circulation time and enhances delivery into the tumor through the leaky vasculature.