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Crystalline Genistein Formulation AXP107-11

National Cancer Institute

Source

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An orally available crystalline formulation of genistein, a soy-derived isoflavone and phytoestrogen with potential antineoplastic, chemosensitizing, and antioxidant activities. Similar to genistein, crystalline genistein formulation AXP107-11 increases expression of phosphatase and tensin homolog (PTEN), which deactivates protein kinase Akt and mitogen-activated protein kinases (MAPK1 and 3; ERK2 and 1), thereby disrupting PI3K/Akt signal transduction and inducing apoptosis. This agent also induces antioxidant enzymes through AMP-activated protein kinase (AMPK) activation, inhibits NF- κ B activation and decreases inflammation response, thereby sensitizing tumors to chemotherapy. Compared to genistein itself, this crystalline formulation shows improved solubility and bioavailability.