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# Licochalcone A

National Cancer Institute

## Source

National Cancer Institute. *Licochalcone A*. NCI Thesaurus. Code C148179.

A derivative of the phenol chalconoid, found in and extracted from the roots of Glycyrrhiza species *G. glabra* and *inflata*, with potential anti-inflammatory, antibacterial, and anticancer activities. Upon administration, licochalcone A inhibits the phosphatidylinositol-3-kinase/Akt/mammalian target of rapamycin (PI3K/Akt/mTOR) signaling pathway and inhibits the activity of c-Jun N-terminal kinase 1 (JNK-1), a member of the mitogen-activated protein kinase (MAPK) family that plays a role in the MAPK-mediated signaling pathway. Inhibition of the PI3K/Akt/mTOR- and MAPK-signaling pathways induces cell cycle arrest and apoptosis, decreases migration and invasion of cancer cells, and inhibits tumor cell proliferation. Licochalcone A also prevents the production of reactive oxygen species (ROS), and reduces oxidative stress through the nuclear factor-erythroid 2-related factor 2 (Nrf2) pathway.