Bakuchiol is a prenylated phenolic terpene originally sourced from many plants, including Psoralea coryfolia. Bakuchiol exhibits estrogenic, antibacterial, anti-inflammatory, anti-diabetic, anti-hyperlipidemic, and anti-fibrotic activities. Bakuchiol activates estrogen receptors, displaying preference for ERα over ERβ. Bakuchiol shows antimicrobial activity against species of Streptococcus, Enterococcus, Lactobacillus, Actinomyces, and Porphyromonas. In macrophages, bakuchiol inhibits LPS-induced production of NO and prostaglandin E2 (PGE2); in other cellular models, it decreases formation of leukotriene B4 (LTB4) and thromboxane B2 (TXB2). In vivo, bakuchiol decreases PGE2 levels, myeloperoxidase activity, and neutrophil degranulation, decreasing edema. In multiple animal models of diabetes, this compound decreases plasma glucose and triglyceride levels. Across several cellular models of fibrosis, bakuchiol activates ERK 1/2, JNK, p38 MAPK, caspase-3, cytochrome c release, and cleavage of poly(ADP)-ribose polymerase (PARP). Bakuchiol may also inhibit protein phosphatase 1B (PP1B).

References


