Glucosamine is an endogenous amino sugar precursor to glycosylated protein and lipid formation; it is used in the making of cartilage. Glucosamine improves joint function and is often found in dietary supplements. Glucosamine exhibits anticancer and anti-fibrotic activities. In prostate cancer cells, glucosamine decreases N-glycosylation of gp130, suppressing binding of IL-6, phosphorylation of JAK2, SHP2, and STAT3, and cellular proliferation. Additionally, glucosamine decreases TGF-β1-induced expression of collagen I, fibronectin, and α-SMA, inhibits phosphorylation of Smad2/3, and suppresses the development of renal fibrosis in vivo.

References