

Inhibition of xanthine oxidase by purpurogallin and silymarin Group.

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Abstract

Thirteen phenolic compounds were tested for their inhibitory effects on xanthine oxidase. The enzyme xanthine oxidase catalyses the oxidation of hypoxanthine to xanthine and of xanthine to uric acid, which has lambda max of 295 nm, forming the basis for a spectrophotometric assay of the activity of xanthine oxidase. The results showed that purpurogallin and silymarin group displayed the inhibitory effects on xanthine oxidase ($IC_{50} = 2.96 \pm 0.12$ and 27.58 ± 3.48 microM, respectively). Their apparent inhibition constants (K_i) were 1.16 and 5.85 microM, and induced uncompetitive and mixed type (non-competitive-uncompetitive) inhibitions respectively, with respect to the substrate xanthine.