Inhibition of xanthine oxidase by hydroxylated anthraquinones and related compounds.

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Abstract

Eighteen anthraquinones and related 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 a lambda max of 295nm, forming the basis for a spectrophotometric assay of the activity of xanthine oxidase. The results showed that anthrarobin and purpurin showed moderate effects on xanthine oxidase inhibition (IC50 = 68.35 and 105.13 microM; Ki = 122.38 and 130.49 microM respectively), and both of them induced mixed type (competitive-non-competitive) inhibition with respect to the substrate xanthine.