NEW 5β,6β-EPOXYSTEROIDS WITH CYTOTOXIC ACTIVITY

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The synthesis of 5β,6β-epoxides from Δ^5-steroids is a very important reaction since the former functionality is present in a number of biologically active steroids. Thus, natural occurring compounds such as Withaferin A [1], Withanolide D [2], Jaborosalactone A [3] or marine steroids isolated from *C. viridis* [4], all possess 5β,6β-epoxide functions and have demonstrated antitumor activity.

Steroidal 5β,6β-epoxides can easily be obtained from Δ^5-steroids by use of numerous potassium permanganate-metal sulfate and nitrate systems for the oxidation of C-C double bonds [5]. Starting with 16-dehydropregnenolone acetate, new compounds were synthesized as promising antitumoral agents.

Compounds 1 and 2 (Fig. 1) showed good cytotoxic activity against HT-29 colon cancer cells, with an IC50 of 181 and 20 μM respectively, in preliminary studies. Further studies of cytotoxic activity against lung cancer cell lines, such as A549, are currently in progress.

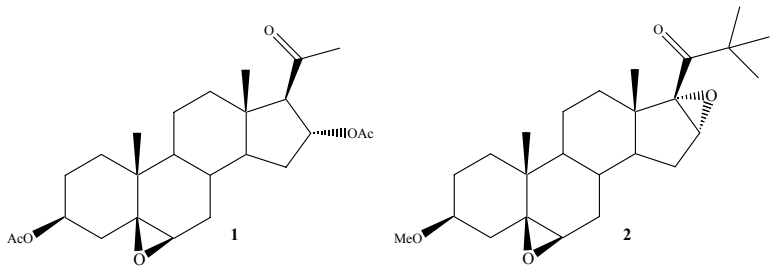

Fig. 1

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