

# Xanthanolides with Antitumour Activity from *Xanthium italicum*

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Bioassay-guided fractionation of a CHCl<sub>3</sub> extract of the leaves of *Xanthium italicum* Moretti led to the isolation of four xanthanolides: xanthatin (**1**), 4-epixanthanol (**2**), 4-epi-isoxanthanol (**3**), and 2-hydroxyxanthinosin (**4**). Their structures were determined by means of 1D and 2D NMR spectroscopy, including <sup>1</sup>H-<sup>1</sup>H COSY, NOESY, HSQC and HMBC experiments, which resulted in complete and unambiguous <sup>1</sup>H and <sup>13</sup>C NMR chemical shift assignments. The isolated compounds **1–4** were evaluated for their antiproliferative activities, and were demonstrated to exert significant cell growth inhibitory activity against human cervix adenocarcinoma (HeLa), skin carcinoma (A431), and breast adenocarcinoma (MCF7) cells.

*Key words:* *Xanthium italicum*, Xanthanolides, Antitumour Activity