

Isoflavones with unusually modified B-rings and their evaluation as antiproliferative agents.

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Abstract

Six novel isoflavone derivatives along with four known isoflavones were isolated from a culture of a highly nickel-resistant strain of *Streptomyces mirabilis* from a former uranium mining area. The structures of 7-hydroxy-3',5'-dihydroxyisoflavone (5), 5,7-dihydroxy-3',5'-dihydroxyisoflavone (6), 2'-hydroxy-3'-methoxygenistein (7), as well as hydroisoflavones A-C (8-10) were elucidated by MS and NMR analyses. Compounds 8-10 feature yet unprecedented types of non-aromatic, hydroxylated B rings, which result from plant isoflavone biotransformation. All new compounds display weak cytotoxic but potent antiproliferative activities. The anti-oestrogenic properties of 8 against MCF-7 human breast cancer cell line (GI₅₀: 6 µM) is even higher than the reference compound genistein.

Beteiligte Forschungseinheiten

[Biomolekulare Chemie](#) [Christian Hertweck](#) [Mehr erfahren](#)

Leibniz-HKI-Autor*innen



Hans-Martin Dahse

[Details](#)



Christian Hertweck

[Details](#)

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