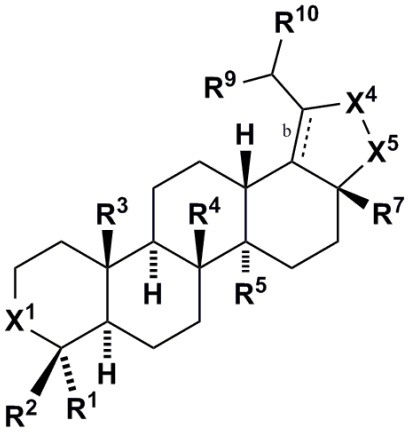
Biologically active triterpenoid derivatives I



Introduction:
Triterpenoids are naturally occurring substances showing a large range of biological activities, including strong cytotoxic activity. This would make them suitable for use as pharmaceuticals.

Technology description:
The present invention relates to the use of a compound of formula (I), or a pharmaceutically acceptable salt, crystal form, complex, hydrate, or hydrolysable ester thereof, in the preparation of a medicament for treating a patient suffering from leukemia, cancer or other proliferative disorder. A further embodiment relates to the use a compound of formula (I) in an assay for detecting the phosphorylation state of cellular substrates. The present invention also relates to novel compounds of formula (I), and the chemical synthesis thereof.

Advantages:
The invention provides a novel class of compounds possessing a cytotoxic activity to a wide range of tumor cell lines. Our recent data demonstrate that selected compounds covered by these patents are hedge-hog inhibitors, pro-apoptotic compounds inducing selective release of cytochrome c from tumor cells, tubulin polymerization inhibitors, hemoxygenase I inducers, HIV maturation inhibitors, etc. These compounds will be useful as medicaments for the treatment of cancer and other diseases connected with abnormal proliferation and/or HIV infection.

Development status:
Laboratory scale, data on cell lines, limited ADME/Tox data, *in vivo* pharmacology and pharmacodynamics.

Publications:
Kvasnica, M., M. Urban, N. J. Dickinson, J. Sarek. Pentacyclic triterpenoids with nitrogen- and sulfur-containing heterocycles: synthesis and medicinal significance. Natural Product Reports. 2015, 20(32), 1303-1330. ISSN 0265-0568. IF: 10.986. PMID: 26030604
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Urban, M., J. Sarek, I. Tislerova, P. Dzubak, M. Hajduch. Influence of esterification and modification of A-ring in a group of lupane acids on their cytotoxicity. Bioorganic & Medicinal Chemistry. 2005, 13(19), 5527-5535. ISSN 0968-0896. IF: 2.018. PMID: 16087342
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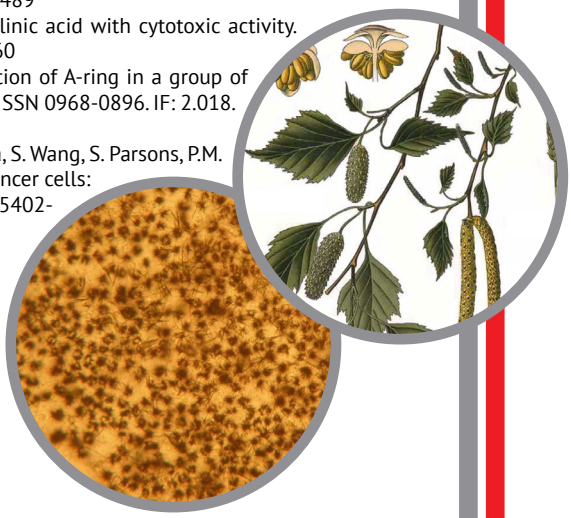

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