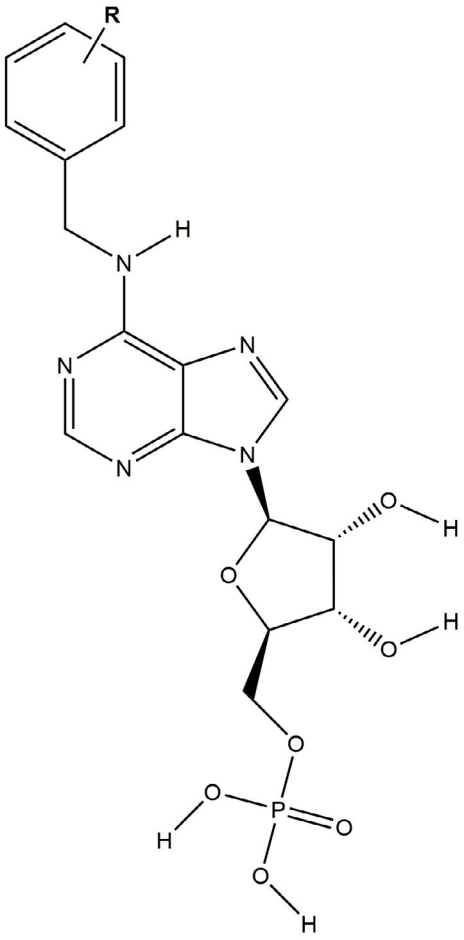
Biologically active derivatives of N6-benzyladenosine-5´-monophosphate

Introduction:
Cytokinin ribosides are phytohormones with anticancer activities against a range of cancer cell lines including leukemia stem cells. Their activity was confirmed in several xenograft models.



Technology description:
The present invention relates to the use of a compound of formula (I) for treatment of patients suffering from cancers or other proliferative disorders. Cytokinin ribosides, N6-substituted derivatives of adenosin, have only a limited water solubility which complicates preparation of pharmaceutically acceptable formulations. Introduction of 5´-phosphate moiety increases polarity and allows much higher solubility. Parent compound is released by the activity of serum/tissue esterases.

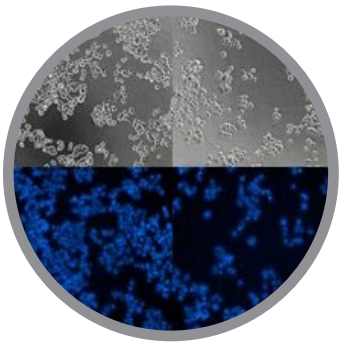
Key feature:
The invention provides a novel class of cytokinin prodrugs with improved solubility profile.

Publications:
McDermott S. P., K. Eppert, F. Notta, M. Isaac, A. Datti, R. Al-Awar, J. Wrana, M. D. Minden, J. E. Dick. A small molecule screening strategy with validation on human leukemia stem cells uncovers the therapeutic efficacy of kinetin riboside. Blood. 2012, 119(5), 1200-7. ISSN: 1528-0020. IF: 15.132. PMID: 22160482
Voller, J., M. Zatloukal, R. Lenobel, K. Dolezal, T. Beres, V. Krystof, L. Spíchal, P. Niemann, P. Dzubak, M. Hajduch, M. Strnad. Anticancer activity of natural cytokinins: a structure-activity relationship study. Phytochemistry. 2010, 71(11-12), 1350-9. ISSN: 1873-3700. IF: 3.186. PMID: 20553699

Development status:
Laboratory scale, data on cell lines, limited ADME/Tox data

Commercial offer:
Exclusive/non-exclusive license to the know-how and data

Ownership:
BioApex, s.r.o., Olomouc
Institute of Molecular and Translational Medicine, Faculty of Science, Palacky University, Olomouc



Contact:
More information is available upon signing a CDA/NDA. Please contact IMTM´s director (director@imtm.upol.cz) or the technology transfer office (tto@imtm.upol.cz)