TEMP138

# IN SEARCH OF NOVEL NUCLEOSIDE THERAPEUTICS - EXPLORING THE PURINE CORE OF 3'-C-ETHYNYLADENOSINE

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Nucleoside analogues have been used as therapeutics for the treatment of cancer or viral infections for over 50 years. Despite this fact, agents with intriguing and improved efficacy, tolerability etc. have been discovered over the past decade.[1] Hence, we decided to explore untapped potential of certain nucleoside scaffolds.

In this work, we set out to elaborate the structure of a potent antitumor agent, 3'-ethynyl-adenosine (EAdo).[2] The purine ring of EAdo was modified at either the C-2 and / or the C-6 position. Derivatives were screened for cytostatic as well as antiviral activity.

Synthetized analogues showed only moderate to no cytostatic activity ($IC_{50}$>50 µM in proliferation assay), except for EAdo, which confirmed potent cytostatic activity. Furthermore, only one analogue exhibited antiviral activity against Vaccinia virus, albeit with a modest selectivity index.

References

1) Jordheim, L. P.; Durantel, D.; Zoulim, F.; Dumontet, C. Nat Rev Drug Discov 2013, 12, 447.
2) Hattori, H.; Tanaka, M.; Fukushima, M.; Sasaki, T.; Matsuda, A. J. Med. Chem. 1996, 39, 5005.