4th Symposium of Young Researchers on Pharmacognosy

BOOK OF ABSTRACTS

(ed. Judit Hohmann)

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4 – SHORT LECTURE

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Hybrid molecules of tryptophan derivatives and protoflavones to tackle colon cancer

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The tumor suppressor protein p53 is responsible for the genome integrity of cells, controlling apoptosis, cell cycle arrest and several other functions in response to stress signals. In human cancers, this protein is inactivated either by mutation or by negative regulators. For this reason, there is a high interest to discover new molecules able to reactivate the p53 tumor suppressor function. In the last years, our research group has been involved in the development of tryptophan derivatives to reactivate wild-type and mutant p53 [1].

The ataxia telangiectasia and Rad3 related protein (ATR) is another important target on cancer. ATR plays a central role in DNA damage response, and ATR inhibitors kill p53-deficient cancer cells [2]. To develop new drugs to tackle colon cancer, we decided to combine in one molecule two distinct pharmacophores (indole p53 activators and protoflavone ATR inhibitors). The rational is that ATR inhibitors will complement p53-targeted therapies. In this oral communication, we will show our most recent advances on the synthesis of these hybrid molecules.

References

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[2] Mei, L, et al. *J Hetamol Oncol* **2019,** 12(1):43. doi: 10.1186/s13045-019-0733-6

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