ADVANCES OF SCIENCE

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Czech Republic, Karlovy Vary -
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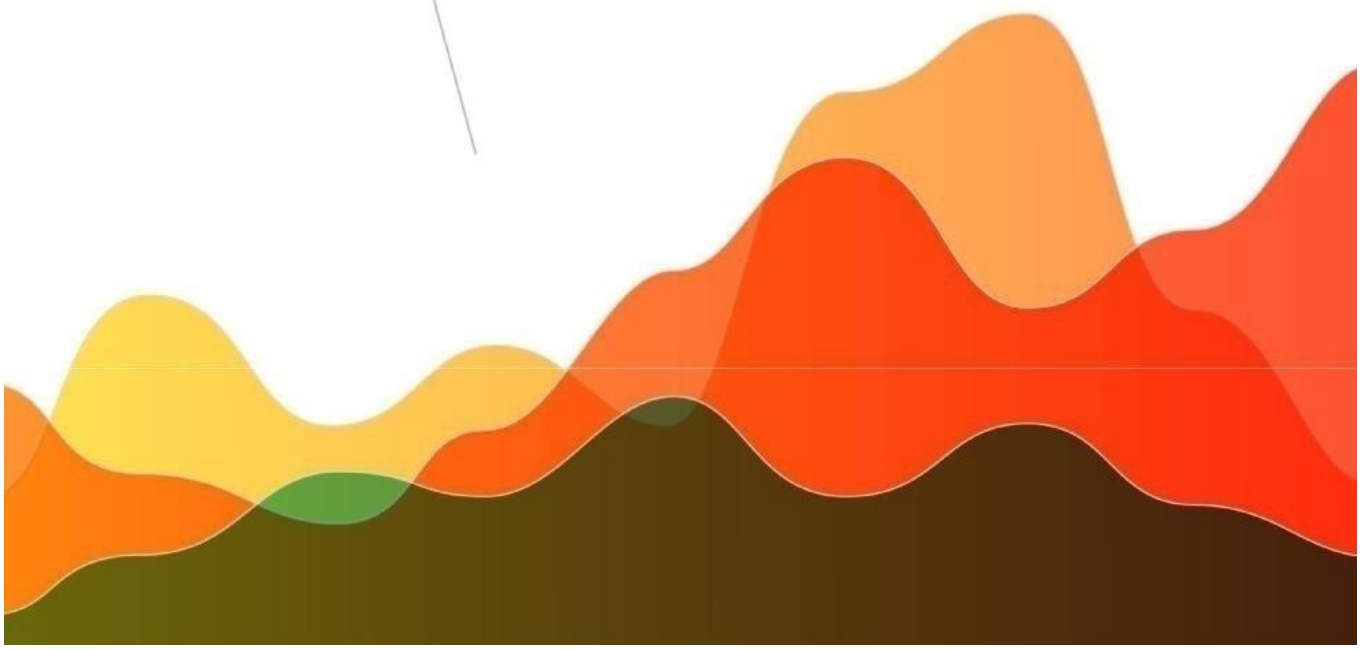

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ADVANCED ANTIVURAL SUBSTANCES IN THE SERIES OF DERIVATIVES OF PYRIDO[1,2-A]PYRIMIDINE-CARBOXAMIDES

BEREZNYAKOVA N. L.,
YAREMENKO V. D.,
BEREZNIAKOVA M. YE.,
DRUGOVINA V. V.
Doctor of Pharmaceutical Sciences, Professor
Medical Chemistry Department
National University of Pharmacy
Kharkiv, Ukraine

The search problem of new antiviral preparations is very important because the fight against common herpes virus diseases is one of the most important tasks of modern science [1]. Primarily, high level of mortality is caused by the herpes simplex virus type I (HSV-1), which causes brain damage with the development of acute encephalitis or meningoencephalitis [2]. Hence, the most advanced antiviral drugs with a high potency, low toxicity and a long-term effect against herpes viruses that are pathogenic for humans are necessary.

The results obtained from a previously conducted mathematical prediction of biological activity using the PASS program [3] approved a high probability of manifestation of the anti-herpes properties of pyrido[1,2-a]pyrimidine-3-carboxylic acids dialkylaminoalkylamides obtained by ethyl ethers amidating with the relevant primary amines [4].

The chemical structure of all synthesized substances is confirmed by ^{1}H NMR spectra. The structure of one of compounds was studied in more detail by X-ray structural analysis.

The criterion of antiviral activity was considered the presence of dissimilarities in the titers of virus in comparison with the control indicators. Biological studies conducted in this series of substances allowed identifying active compounds capable

inhibit in therapy doses the reproduction of herpes simplex virus the first type selectively, both in vitro and in vivo, without affecting the life processes of the cells of the host organism.

Based on the evidence found, it can be said that the data of a computer projection on expediency of testing the amidated derivatives of 2-hydroxy-4-oxo-4H-pyrido [1,2-a]pyrimidine-3-carboxylic acids for their antiviral activity confirmed.

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