According to the study, 17 aminoacids were identified. 9 of these aminoacids (arginine, valine, histidine, isoleucine, leucine, lysine, methionine, threonine and phenylalanine) are essential. The highest total content of aminoacids (24,35mg/100mg) was established in the leaves of Portulaca oleracea L. The lowest total content of aminoacids (11,97mg/100mg) was determined in the roots of Portulaca grandiflora Hook. Cysteine is found in the highest concentration in roots of Portulaca grandiflora Hook. Arginine, aspartatic acid and lysine are found in highest concentration in roots of Portulaca oleracea L. Glycine, valine, alanine, serine and glutamic acid are accumulated in highest concentration in leaves of Portulaca oleracea L. Alanine, arginine, aspartic acid, valine, glycine and lysine were the predominant amino acids in all specimens. Conclusions. The qualitative composition and quantitative content of 17 amino acids were determined in leaves, herbs, roots of Portulaca oleracea L. and Portulaca grandiflora Hook. The highest total content of aminoacids (24.35mg/100mg) was established in the leaves of Portulaca oleracea L.

Researches of antioxidative activity of dietetic additive “Omega-3”

Kolesnik A.V., Drygval D.R.
Scientific supervisors: Varavka I.P., Galitsa V.V., Tolmosova N.N.
Zaporozhye Medical College
Department of professional-practical cycle of the disciplines of the laboratory profile

According to recent researches, besides classic antioxidants, stockpile of which increases continuously, antioxidative and antiradical properties revealed of a numerous of physiological active substances of natural and synthetic origination. Taking into consideration diversity of positive biological effects of the antioxidants, their search and investigation remains an actual problem of the modern biochemistry and pharmacology. Especial regard deserves dietetic additives with expressed properties of the natural antioxidants, such as “OMEGA-3”. It has been proven clinically, that *w*-3-polyansaturated fatty acids (PUFA) need for normalization of a brain activity, functions of vascular, immune and reproductive systems. But the most important features of *w*-3-PUFA are their antioxidant properties. For the researches the dietetic additive “OMEGA-3” in gelatinous capsules has been taken. The results of investigation of AOA under nonenzymatic initiation of freeradical oxidation under decreasing of marker of peroxidation of MDA have given 93,4%. The researches under inhibition of the superoxide radical in the system of autooxidation of adrenaline into adrenochrome showed, that AOA of “OMEGA-3” equals near 78% and exceeds emoxypine and thiotriazoline. It explains the ability to catch an AFO due to unsaturation. It has been shown distinct activity of “OMEGA-3” – 65,7%, under inhibition of NO-radical in the system of photoinductive autooxidation of sodium nitroprusside, which exceeds activity of reference drugs – thiotriazoline and N-AC. Braking of OMP, caused by reagent of Phenton, demonstrated high antioxidative activity of the dietetic additive “OMEGA-3” (decreasing of levels of APH – 52% and CPH – 65,1%). The results of investigation of AOA under four tests – braking of freeradical oxidation, OMP, inhibition of superoxide- and NO-radical prove, that dietetic additive “OMEGA-3” is a perspective substance with expressed antioxidative properties, which exceed thiotriazoline, emoxypine and N-AC.

SEARCH OF ANTIFUNGAL COMPOUNDS AMONG THIAZOLE AND TRIAZOLE CONTAINING XANTHINE DERIVATIVES

Levich S.V., Sinchenko D.M., Legkostup V.A.
Scientific supervisor – Dr.Hab, professor Aleksandrova K.V.
Zaporizhzhya State Medical University
Department of Biological Chemistry

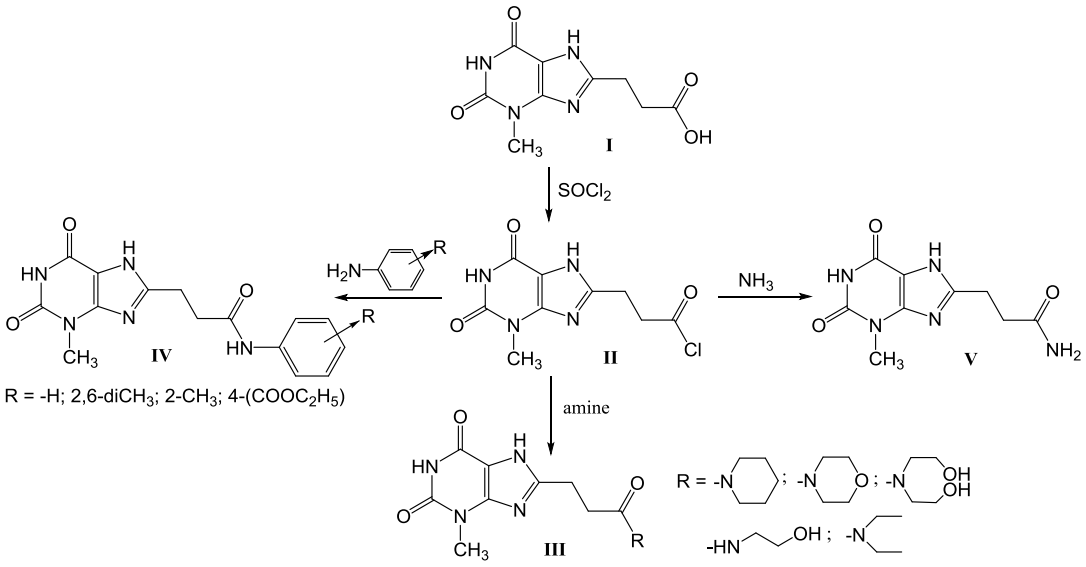
Mycoses are wide spread diseases. It could be explained by increasing of resistance of micromycetes to antifungal medicines. The reason of this is a long term of usage of such drugs and similarity in their chemical structures. Thus, search of novel antifungal drugs with specific activity is rather important task for modern pharmaceutical science. Heterocycle containing compounds are very important structural units in drug discovery that showed wide spectrum of pharmacological activity including hypoglycemic, antibacterial, antifungal, anticancer, anti-inflammatory and xanthine oxidase inhibitory effects. In the same time combination of several heterocyclic systems in one molecule could improve pharmacological properties. Aim of our work was a study of antifungal properties of thiazole and triazole containing xanthine derivatives. For

study of antifungal activity we prepared a series of two-fold serial dilutions of studied xanthine derivatives in Mueller-Hinton broth at volume of 1 ml. After this, we added 0.1 ml of a fungi suspension (106mk / ml) to each tube. Minimal inhibition concentration was determined by the absence of visible growth *in vitro*, the minimum fungicidal concentration - by the absence of growth after sowing. As the solvent we used dimethylsulfoxide. Concentration of Initial solutions were 1 mg/ml. As standard tests we used *Candida albicans*. The standard drug "Nystatin" was used as compare control. As result of provided experiment we found, that almost all tested xanthine derivatives showed antifungal activity and some of them were more active than "Nystatin". Obtained data also allowed to found some dependence at "structure – activity" relations.

SYNTHESIS AND INVESTIGATION OF SOME DERIVATIVES OF 3-(3-METHYLXANTHINE-8-YL)PROPANOIC ACID

Vasylyev D.A.
Research supervisors – D.Sc, prof. Aleksandrova K.V.
Zaporozhye State Medical University
Department of biological chemistry

In order to obtain new potentially biologically active compounds, we developed a method for the synthesis of 3- (3-methylxanthinyl-8)propanoic acid, based on which a synthesis of some amides of the aliphatic and aromatic series was carried out. By heating the suspension of 3-(3-methylxanthine-8-yl)propanoic acid (I) in excess thionyl chloride without solvent for 5 hours, the corresponding chloric anhydride (II) was obtained. Heating of the chloric anhydride with the amines taken as solvents gave the corresponding amides (III). The reaction of substituted anilines with 3-(3-methylxanthine-8-yl)propanoic acid chloride in anhydrous acetic acid is realized by the formation of aromatic amides (IV). The reaction of the chloric anhydride and 20% ammonia solution results in the formation of the acid amide (V).



Obtained data gives us the possibility to suppose that synthesized compounds have high diuretic activity in comparison with hypothiazide. Structures of synthesized compounds were confirmed by IR-, NMR-spectroscopy and mass-spectrometry.