Introduction. Neuropeptide Y (NPY) is a regulatory compound that performs many functions in the body, including the processes of food consumption, reaction to stress, learning, etc. A modified NPY fragment, which is an analogue of the functionally active NPY site, was studied in this work.

Aim. Study of the effect of a low molecular weight fragment of neuropeptide Y on the behavior of rats after intranasal administration.
Materials and methods. The experiment was performed on 30 rats, divided into 5 equal groups. The intact group received water intranasally, the 2nd, 3rd, 4th — a solution of the test compound in a dose of 0.1, 0.15 and 0.2 mg / kg. Comparison drug — Stresam "Bicodex" group 5, was administered per os (22 mg/kg). The following tests were performed: the light/dark test (LDT) and a forced swimming test (FST).

Results and discussion. In the light/dark test for group 2, the time spent in the light chamber increased by 30% compared to the control, but was less than the Stresam group (41%). The time in the light chamber for groups 3 and 4 is not significantly different. Latency for the rate to enter into the dark for groups of 0.1; 0.15 and 0.2 mg/kg was higher, respectively, in 2.4, 5.4 (p<0.05) and 1.9 times, compared with control. The latent time of group 2 was relatively equal to group 5. The number of peeps out and transitions between groups did not differ significantly. In FST, the total time of immobilization was dose-dependently reduced compared with control (by 10% — 0.1 mg/kg, 27% – 0.15 mg/kg). The immobilization time of the 4 groups is less than the control by 49% (p<0.05) and the Stresam group by 18%. Latent immobilization time increased for groups 2, 4 and 5 in 1.4, 2 (p<0.05) and 1.8 times, but for 3 groups it did not change significantly. The number of immobilizations, in comparison with control, for the 4 and 5 groups does not differ, and for the second it increased by 43%, and 32% for the third.

Conclusions. The modified NPY fragment in the light/dark test showed anxiolytic property, less in strength than in Stresam. In a forced swimming test the studied peptide significant showed the ability to delay and reduce the duration of the onset of despair behavior, which may indicate antidepressant-like activity.