



Short communication

Influence of long-term treatment with tuftsin analogue TP-7 on the anxiety-phobic states and body weight

Róża Czabak-Garbacz¹, Beata Cygan¹, Łukasz Wolański¹,
Igor Kozlovsky²

¹Department of Human Physiology, Medical University of Lublin, Radziwiłłowska 11, PL 20-080 Lublin, Poland

²Institute of Pharmacology, Russian Academy of Medical Sciences, Baltiskaya 8, Moscow, Russia

Correspondence: Róża Czabak-Garbacz, e-mail: czabak@am.lublin.pl

Abstract:

TP-7 is a synthetic analogue of tuftsin. It has a structure of tuftsin, to which three natural L-amino-acids Pro-Gly-Pro are attached. This heptapeptide improves learning and memorization and causes antidepressant and anxiolytic effect. It is possible to use TP-7 in the future to optimize cognitive functions and as a potential new anxiolytic, fast-acting and easy-dosed drug. Therefore, it was purposeful to study such properties of the heptapeptide as its influence on anxiety-fear and body weight under a long-term treatment regimen. The experiment was performed on 24 preselected Wistar rats with the use of Rodina's method. There were three experimental groups of animals with high initial emotional reactivity: passive control group (P), active control group (A, receiving distilled water) and group treated with TP-7 at the dose of 0.3 mg/kg (T). The rats of A and T groups received intraperitoneal injections every day. The experiments were conducted 15 min after the administration of the drug, one and two days after initial testing day, then 1, 2, 3 and 4 weeks after that. The heptapeptide reduced the anxiety-phobic states significantly starting from the second day of drug application. The observed effects persisted throughout four weeks of the experiment, which confirmed effective long-term anxiolytic properties of the heptapeptide. TP-7 did not cause any changes in the body mass by itself.

Key words:

tuftsin analogue, anxiety, body weight, rat
