



Distribution in rats internal organs of intraperitoneally given ¹²⁵I-labeled heptapeptide [2-8]-leucopyrokinin ([2-8]-LPK), a truncated analog of insect neuropeptide leucopyrokinin.

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Background. It was previously found that synthetic, insect-derived octapeptide leucopyrokinin (LPK) applied directly into the lateral brain ventricle induced a significant antinociceptive effect in rats. Its synthetic truncated analog heptapeptide [2-8]-leucopyrokinin displayed a stronger antinociceptive effect in comparison to native LPK. Moreover it was previously found a high accumulation of these both ¹²⁵I-labeled peptides in adrenals, as well as in hypothalamus and in hippocampus of rats brain.

Objectives. The aim of the present study was to assess the distribution of ¹²⁵I-labeled [2-8]-leucopyrokinin in rats' internal organs and in several parts of the brain after peripheral – intraperitoneal (*i.p.*) administration.

Material and Methods. The study was performed on male Wistar rats. A synthetic [2-8]-leucopyrokinin ([2-8]-LPK) was iodinated with Na¹²⁵I. On the day of experiment a solution of ¹²⁵I-[2-8]-LPK was *i.p.* injected and the next after 1 and 24 h animals were sacrificed by decapitation. Radioactivity levels in samples of parts of the brain and of internal organs were determined by counter Gamma Auto Count.

Results. A uniform, low accumulation ¹²⁵I-[2-8]-LPK was found in evaluated samples of the brain and in internal organs.

Conclusion. The results of the present study indicate a weak penetration into the brain and internal organs of intraperitoneally applied ¹²⁵I-[2-8]-LPK in rats and correspond with previously determined weak biological effects of *i.p.* injected LPK and [2-8]-LPK.

Słowa kluczowe

[2-8]-leucopyrokinin, distribution in rat brain and internal organs, intraperitoneal administration

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