

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

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Rok wydania

2013

Czasopismo

Pharmacological Reports

Numer woluminu

65

Strony

114-115

DOI

10.1016/S1734-
1140(13)71426-9

Kolekcja

Naukowa

Język

Angielski

Streszczenie

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 ^{125}I -labeled peptides in adrenals, as well as in hypothalamus and in hippocampus of rats brain. The aim of the present study was to assess the distribution of ^{125}I -labeled [2-8]-leucopyrokinin in rats' internal organs and in several parts of the brain after peripheral - intraperitoneal (i.p.) administration. The study was performed on male Wistar rats. A synthetic [2-8]-leucopyrokinin ([2-8]-LPK) was iodinated with Na^{125}I . On the day of experiment a solution of ^{125}I -[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. A uniform, low accumulation ^{125}I -[2-8]-LPK was found in evaluated samples of the brain and in internal organs. The results of the present study indicate a weak penetration into the brain and internal organs of intraperitoneally applied ^{125}I -[2-8]-LPK in rats and correspond with previously determined weak biological effects of i.p. injected LPK and [2-8]-LPK.

Adres publiczny

[http://dx.doi.org/10.1016/S1734-1140\(13\)71426-9](http://dx.doi.org/10.1016/S1734-1140(13)71426-9)

Strona internetowa wydawcy

<http://www.elsevier.com>

Strona internetowa wydawcy

<http://if-pan.krakow.pl/en/>

Typ publikacji

Artykuł

Plik został wygenerowany dnia 2026-05-01 03:12:41

Adres w repozytorium <https://old.chem.uni.wroc.pl/pl/repozytorium/aBA7XII>.