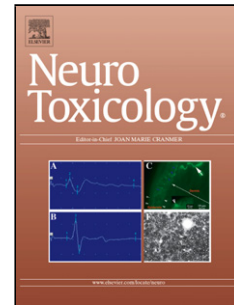


Accepted Manuscript

Title: Excess amounts of 3-iodo-L-tyrosine induce Parkinson-like features in experimental approaches of Parkinsonism

Authors: Emilio Fernández-Espejo, Cristian Bis-Humbert



PII: S0161-813X(18)30198-0
DOI: <https://doi.org/10.1016/j.neuro.2018.06.002>
Reference: NEUTOX 2343

To appear in: *NEUTOX*

Received date: 16-1-2018
Revised date: 8-5-2018
Accepted date: 4-6-2018

Please cite this article as: Fernández-Espejo E, Bis-Humbert C, Excess amounts of 3-iodo-L-tyrosine induce Parkinson-like features in experimental approaches of Parkinsonism, *Neurotoxicology* (2018), <https://doi.org/10.1016/j.neuro.2018.06.002>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Excess amounts of 3-iodo-L-tyrosine induce Parkinson-like features in experimental approaches of Parkinsonism

Running title: 3-iodo-L-tyrosine and Parkinsonism

Emilio Fernández-Espejo*, Cristian Bis-Humbert

Laboratorio de Neurofisiología y Neurología Molecular. Departamento de Fisiología Médica y Biofísica. Universidad de Sevilla. E-41009 Sevilla. Spain.

***Corresponding author:** Emilio Fernández-Espejo, Departamento de Fisiología Médica y Biofísica. Universidad de Sevilla. Av. Sanchez Pizjuan 4. E-41009 Sevilla. SPAIN. Tel: 34-954556584. E-mail: efespejo@us.es

Highlights

- 3-iodo-L-tyrosine, at high concentration, induces Parkinson-like features in cellular and animal approaches of Parkinsonism.
- Cultured substantia nigra neurons present inclusions that express α -synuclein and tyrosine-hydroxylase, after 3-iodo-L-tyrosine exposure.
- Repeated intra-peritoneal infusions of 3-iodo-L-tyrosine cause intramural α -synuclein aggregation, and loss of tyrosine-hydroxylase-positive neurons and fibers in the jejunum.
- Infusion of 3-iodo-L-tyrosine into the left dorsal striata of mice damages the nigrostriatal system, and induces Parkinson-like behavioral deficits.

Abstract

3-iodo-L-tyrosine might play a role in Parkinson's disease since this molecule is able, at high concentration, to inhibit tyrosine-hydroxylase activity, the rate-limiting enzyme in dopamine biosynthesis. The possible Parkinson-like effects of 3-iodo-L-tyrosine were tested on three experimental approaches in mice:

Download English Version:

<https://daneshyari.com/en/article/8550117>

Download Persian Version:

<https://daneshyari.com/article/8550117>

[Daneshyari.com](https://daneshyari.com)