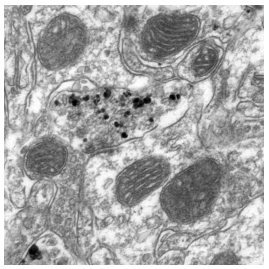
May 14, 2024 Version 2

Quantitative analyses of the ultrastructural features of dopaminergic axon terminals V.2



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Natalie M Doig[1], Peter J Magill[1,2]

[1]Medical Research Council Brain Network Dynamics Unit, Nuffield Department of Clinical Neurosciences, University of Oxford, Mansfield Road, Oxford, OX1 3TH, United Kingdom;
[2]Aligning Science Across Parkinson's (ASAP) Collaborative Research Network, Chevy Chase, MD

Team Cragg

Cláudia C. Mendes
University of Oxford

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We use this collection and it's working

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Keywords: Dopamine, Axon terminal, Striatum Tyrosine hydroxylase (TH), Transmission Electron Microscopy (TEM), Electron microscopy (EM), Substantia nigra pars compacta (SNc), Ventral Tegmental Area (VTA), Vesicle Synapse, Ultrastructure, Immuno-EM, Immunogold, Quantification, ImageJ

Abstract

The release of dopamine from axons is critical for normative brain function and behaviour. Impaired or otherwise inappropriate dopamine release often correlates with changes in the ultrastructure of dopamine neuron axons that can assessed with electron microscopy. Here, we provide two protocols that can be used serially to, first, help the user process animal brain tissue for electron microscopy and, secondly, help the user undertake quantitative analyses of the ultrastructural features of dopaminergic axon terminals in the brain.

Protocol #1 describes how to prepare brain tissue, carry out pre-embedding immunohistochemistry for tyrosine hydroxylase as a marker of dopaminergic axons, and then make tissue sections ready for electron microscope.

Protocol #2 details how to examine and image ultrathin sections of tissue using a transmission electron microscope and then how to analyse the digital images.

Files

SEARCH

Protocol

NAME

Quantitative analyses of the ultrastructural features of dopaminergic axon terminals. Protocol #1: Tissue preparation for electron microscopy

VERSION 2

CREATED BY

Cláudia C. Mendes
University of Oxford

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Protocol

NAME

Quantitative analyses of the ultrastructural features of dopaminergic axon terminals. Protocol #2: Acquisition and analysis of electron microscopy images

VERSION 1

CREATED BY

Cláudia C. Mendes
University of Oxford

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