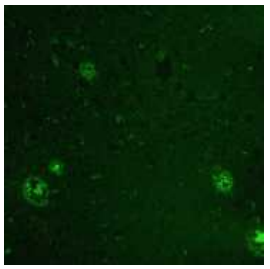
Dec 07, 2023

Luminescent Conjugated Oligothiophenes (LCO) Staining



DOI
https://dx.doi.org/10.17504/protocols.io.x54v9pd7pg3e/v1

Toby Curless[1,2], Hemanth Ramesh Nelvagal[1,2], Zane Jaunmuktane[1,3,2]

[1]Department of Clinical and Movement Neurosciences, UCL Institute of Neurology, Queen Square, London WC1N 3BG, UK;
[2]Aligning Science Across Parkinson's (ASAP) Collaborative Research Network, Chevy Chase, MD, 20 815, USA;
[3]Queen Square Brain Bank for Neurological Disorders (QSBB), 1 Wakefield Street, London WC1N 1PJ, UK

Toby J Curless
Department of Clinical and Movement Neurosciences, UCL Insti...

DOI: https://dx.doi.org/10.17504/protocols.io.x54v9pd7pg3e/v1

Protocol Citation: Toby Curless, Hemanth Ramesh Nelvagal, Zane Jaunmuktane 2023. Luminescent Conjugated Oligothiophenes (LCO) Staining. **protocols.io** https://dx.doi.org/10.17504/protocols.io.x54v9pd7pg3e/v1

Protocol status: Working
We use this protocol and it's working

Created: August 07, 2023

Last Modified: May 31, 2024

Protocol Integer ID: 86046

Keywords: ASAPCRN, Luminescent Conjugated Oligothiophenes, Brain sections, luminescent conjugated oligothiophene, brain section, brain, lco

Funders Acknowledgements:
The Michael J. Fox Foundation for Parkinson's Research (MJFF) and the Aligning Science Across Parkinson's (ASAP) Initiative
Grant ID: ASAP-000478

Abstract

The protocol describes Luminescent Conjugated Oligothiophenes staining on brain sections.

Materials

- 100 % ethanol
- Coverslips
- DEPC H2O
- Epifluorescence microscope (Leica) using FITC filters
- Humidified chamber for 30 mins
- HydromountTM aqueous non-fluorescing mounting media (National Diagnostics)
- Hydrophobic ImmEdgeTM PAP pen (Vector laboratories)
- PBS
- pFTAA solution (diluted in PBS).
- Xylene

Safety warnings

Breathing in xylene vapours in the air can cause irritation to the eyes, nose and throat and it can cause irritation, redness and swelling to the skin or eyes; and headaches, dizziness, vertigo and drowsiness. Please work to your institution approved health & safety policies, risk assessments and local procedures for the safe use, storage and disposal or xylene. Refer to the data safety sheet.

Preparation

1 Generate tissue sections using standard microtome sectioning protocols.

2 Heat tissue dry tissue sections for 01:00:00 at 60 °C 1h

Deparaffinisation and LCO Staining 45m

3 15m

Safety information

Please refer to the Xylene Data Safety Sheet and follow local approved risk assessements and protocols for safe handling and disposal of xylene.

Hazard pictograms

De-paraffinise sections by 00:05:00 washes in xylene (x2), 00:05:00 100 % ethanol (x2) and 00:05:00 in DEPC H_2O (x1).

4 Circle tissue on slide using a hydrophobic ImmEdge™ PAP pen (Vector laboratories) to contain
solution.

5 Prepare 1:500 pFTAA solution (diluted in PBS). **All steps from here should be performed away from light.**

6 Pipette pFTAA solution onto tissue and incubate at room temperature in a humidified chamber for 00:30:00 mins. 30m

7 Wash slides in PBS 3x.

8 Coverslip slides using Hydromount™ aqueous non-fluorescing mounting media (National Diagnostics).