



Jun 18, 2024

Version 1

# 🌐 Modelling human neuronal catecholaminergic pigmentation in rodents recapitulates age-related multisystem neurodegenerative deficits V.1

DOI

[dx.doi.org/10.17504/protocols.io.4r3l2qq1ql1y/v1](https://dx.doi.org/10.17504/protocols.io.4r3l2qq1ql1y/v1)

Ariadna Laguna<sup>1</sup>, Núria Peñuelas<sup>2</sup>, Miquel Vila<sup>1</sup>

<sup>1</sup>VHIR-CIBERNED-ASAP; <sup>2</sup>Vall d'Hebron Research Institute

Vilalab Public

Nuria



Miquel Vila

VHIR-CIBERNED-ASAP

## Create & collaborate more with a free account

Edit and publish protocols, collaborate in communities, share insights through comments, and track progress with run records.

Create free account

OPEN  ACCESS



**DOI:** <https://dx.doi.org/10.17504/protocols.io.4r3l2qq1ql1y/v1>

**Collection Citation:** Ariadna Laguna, Núria Peñuelas, Miquel Vila 2024. Modelling human neuronal catecholaminergic pigmentation in rodents recapitulates age-related multisystem neurodegenerative deficits. **protocols.io**

<https://dx.doi.org/10.17504/protocols.io.4r3l2qq1ql1y/v1>

**License:** This is an open access collection distributed under the terms of the **[Creative Commons Attribution License](#)**, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

**Protocol status:** Working

**We use this collection and it's working**

**Created:** June 04, 2024

**Last Modified:** August 13, 2024

**Collection Integer ID:** 101191

**Keywords:** human neuronal catecholaminergic pigmentation in rodents recapitulates age, modelling human neuronal catecholaminergic pigmentation, human neuronal catecholaminergic pigmentation in rodents recapitulate, human neuronal catecholaminergic pigmentation, neurodegenerative deficit, neurodegenerative deficits method, multisystem neurodegenerative deficit, multisystem neurodegenerative deficits method, rodents recapitulates age, rodents recapitulate

**Funders Acknowledgements:**

**Aligning Science Across Parkinson's**

Grant ID: ASAP-020505

**The Michael J. Fox Foundation for Parkinson's Research**

Grant ID: MJFF-007184 and MJFF-001059

**Ministry of Science and Innovation**

Grant ID: PID2020-116339RB-I00

**EU Joint Programme Neurodegenerative Disease Research**

Grant ID: AC20/00121

**La Caixa Bank Foundation**

Grant ID: ID 100010434

**Parkinson's U.K**

## Disclaimer

The **protocols.io** team notes that research involving animals and humans must be conducted according to internationally-accepted standards and should always have prior approval from an Institutional Ethics Committee or Board.

## Abstract

Methods used in the manuscript entitled "**Modelling human neuronal catecholaminergic pigmentation in rodents recapitulates age-related multisystem neurodegenerative deficits**"

## Troubleshooting



## Disclaimer

The [protocols.io](#) team notes that research involving animals and humans must be conducted according to internationally-accepted standards and should always have prior approval from an Institutional Ethics Committee or Board.

## Files

 SEARCH

### Protocol

NAME  
**Open field**

VERSION 1

CREATED BY

 **Miquel Vila**  
VHIR-CIBERNED-ASAP


OPEN →

### Protocol

NAME  
**Habituation and dishabituation (olfaction test)**

VERSION 1

CREATED BY

 **Miquel Vila**  
VHIR-CIBERNED-ASAP

OPEN →

### Protocol

NAME  
**Grip strength test**

VERSION 1

CREATED BY

 **Miquel Vila**  
VHIR-CIBERNED-ASAP

OPEN →

### Protocol

NAME  
**Blood pressure**

VERSION 1

CREATED BY

 **Miquel Vila**  
VHIR-CIBERNED-ASAP

OPEN →

## Protocol

NAME  
**Polysomnography**

VERSION 1

CREATED BY



**Miquel Vila**  
VHIR-CIBERNED-ASAP


[OPEN](#) →

## Protocol

NAME  
**Intestinal transit time**

VERSION 1

CREATED BY



**Miquel Vila**  
VHIR-CIBERNED-ASAP

[OPEN](#) →

## Protocol

NAME  
**Heart rate**

VERSION 1

CREATED BY



**Miquel Vila**  
VHIR-CIBERNED-ASAP

[OPEN](#) →

## Protocol

NAME  
**Magnetic resonance imaging (MRI)**

VERSION 1

CREATED BY



**Miquel Vila**  
VHIR-CIBERNED-ASAP

[OPEN](#) →

## Protocol

NAME

## Tail Suspension Test

VERSION 2

CREATED BY



Miquel Vila  
VHIR-CIBERNED-ASAP

[OPEN](#) →

## Protocol

NAME

Passive avoidance (step-down test)

VERSION 1

CREATED BY



Miquel Vila  
VHIR-CIBERNED-ASAP

[OPEN](#) →

## Protocol

NAME

Beam test

VERSION 1

CREATED BY



Jacquelyn Haytayan  
Weill Cornell Medicine

[OPEN](#) →

## Protocol

NAME

Novel Object Recognition Test

VERSION 1

CREATED BY



Miquel Vila  
VHIR-CIBERNED-ASAP

[OPEN](#) →

## Protocol

NAME

Immunoblot

VERSION 1

CREATED BY



**Miquel Vila**  
VHIR-CIBERNED-ASAP

OPEN →

## Protocol

NAME

**Quantification of p62-positive inclusions**

VERSION 1

CREATED BY



**Miquel Vila**  
VHIR-CIBERNED-ASAP

OPEN →

## Protocol

NAME

**RNA and protein extraction from bulk dissections**

VERSION 1

CREATED BY



**Núria Peñuelas**  
Vall d'Hebron Research Institute

OPEN →

## Protocol

NAME

**Gene expression analysis by quantitative Real-Time PCR (qPCR)**

VERSION 1

CREATED BY



**Núria Peñuelas**  
Vall d'Hebron Research Institute

OPEN →

## Protocol

NAME

**cDNA synthesis**

VERSION 1

CREATED BY



**Núria Peñuelas**  
Vall d'Hebron Research Institute

OPEN →



## Protocol

NAME

**Stereology-mediated cell count using Stereoinvestigator**

VERSION 1

CREATED BY



joan.compte

[OPEN](#) →

## Protocol

NAME

**Immunofluorescence on paraffin sections**

VERSION 1

CREATED BY

**Miquel Vila**  
VHIR-CIBERNED-ASAP[OPEN](#) →

## Protocol

NAME

**Intracellular neuromelanin quantification**

VERSION 1

CREATED BY

**Miquel Vila**  
VHIR-CIBERNED-ASAP[OPEN](#) →

## Protocol

NAME

**Rodent brain processing for histological analyses (update)**

VERSION 3

CREATED BY



joan.compte

[OPEN](#) →

## Protocol

NAME

**Masson-Fontana Staining**





VERSION 1

CREATED BY



Miquel Vila  
VHIR-CIBERNED-ASAP

OPEN →

## Protocol

NAME

Protocol for preparing post-mortem tissue for intracellular neuromelanin quantification in H&E-stained sections.

VERSION 1

CREATED BY



Miquel Vila  
VHIR-CIBERNED-ASAP

OPEN →

## Protocol

NAME

Optical densitometry of neuronal fibers

VERSION 1

CREATED BY



Miquel Vila  
VHIR-CIBERNED-ASAP

OPEN →

## Protocol

NAME

🚩 Immunohistochemistry on free-floating cryosections

VERSION 1

CREATED BY



Miquel Vila  
VHIR-CIBERNED-ASAP

OPEN →

## Protocol

NAME

Hematoxylin and Eosin (H&E) Staining

VERSION 1

CREATED BY

Miquel Vila



VHIR-CIBERNED-ASAP

[OPEN](#) →

## Protocol

NAME

**Nissl Counterstaining - Cresyl Violet**

VERSION 1

CREATED BY

**Miquel Vila**  
VHIR-CIBERNED-ASAP[OPEN](#) →

## Protocol

NAME

**Survival Analysis**

VERSION 1

CREATED BY

**Miquel Vila**  
VHIR-CIBERNED-ASAP[OPEN](#) →

## Protocol

NAME

**Reproduction Analysis**

VERSION 1

CREATED BY

**Miquel Vila**  
VHIR-CIBERNED-ASAP[OPEN](#) →

## Protocol

NAME

**Transgenic mouse colony maintenance**

VERSION 1

CREATED BY

**Miquel Vila**  
VHIR-CIBERNED-ASAP[OPEN](#) →