

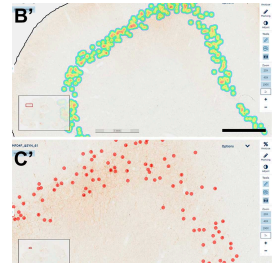


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# Protocol for "quantification of neurons expressing alpha-synuclein in the non-human primate brain"

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Jose Lanciego<sup>1</sup>

<sup>1</sup>Center for Applied Medical Research (Cima) University of Navarra, Pamplna, Spain.



Jose Lanciego

Center for Applied Medical Research (Cima) University of Nav...

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**Protocol status:** Working

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

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## Disclaimer

Nothing to be disclosed

## Abstract

Here we describe a method based on an AI deep learning algorithm (Aiforia) for the purpose of accurately quantifying the number and location of neurons expressing alpha-synuclein throughout pre-defined regions of interest (cortical and sub-cortical locations) in the non-human primate brain.

## Troubleshooting

## Aiforia-based quantification of neurons expressing alpha-synuclein

- 1 Scan sections to be analyzed in the Aperio CS scanner at a magnification of 20x
- 2 Upload digitalized sections to the Aiforia cloud ([www.aiforia.com](http://www.aiforia.com)).
- 3 Create a dedicated project for analysis.
- 4 Select up to 3-4 sections for training the model algorithm, these sections showing different morphologies and intensity levels of alpha-synuclein expression.
- 5 Train the model algorithm to analyse potential errors.
- 6 Activate the annotation assistant tool to retrieve additional beneficial inputs that can be added by the platform itself.
- 7 Repeat steps 5 to 7 while increasing the number of annotations and iterations (>1,000) until the model algorithm has learned to properly identify every single phenotype of alpha-synuclein-expressing neurons.
- 8 Release the model algorithm.
- 9 Use the drawing tool to delineate the boundaries of each selected region of interest where positive neurons need to be quantified in every single section of the project.
- 10 Export obtained raw data to an Excel spreadsheet for statistical analysis.