

Jun 23, 2024

Version 2

SynBot Protocols V.2

 Cell Reports Methods

DOI

<https://dx.doi.org/10.17504/protocols.io.3byl4qewjvo5/v2>

Justin T Savage¹, Juan Ramirez¹, Dolores Irala², Cagla Eroglu^{1,2,3}

¹Department of Neurobiology, Duke University Medical Center, Durham, NC 27710;

²Department of Cell Biology, Duke University Medical Center, Durham, NC 27710;

³Howard Hughes Medical Institute, Duke University Medical Center, Durham, NC 27710

Eroglu_Lab



Justin T Savage

Duke University

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.3byl4qewjvo5/v2>

Collection Citation: Justin T Savage, Juan Ramirez, Dolores Irala, Cagla Eroglu 2024. SynBot Protocols. **protocols.io**
<https://dx.doi.org/10.17504/protocols.io.3byl4qewjvo5/v2> Version created by **Justin T Savage**

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 23, 2024

Last Modified: June 23, 2024

Collection Integer ID: 102279

Keywords: quantification of synapse, using synbot, vivo synapse, paper synbot, synapse, synbot with manual, synbot protocols protocol, details of rat neuron, rat neuron, source image analysis software, astrocyte culture

Funders Acknowledgements:

NIH ROI

Grant ID: AG059409

NIH ROI

Grant ID: NS102237

BRAIN Initiative

Grant ID: U19NS123719

Chan Zuckerberg Initiative, Neurodegeneration Challenge Network

Grant ID: 2018-191999

Chan Zuckerberg Initiative, Neurodegeneration Challenge Network

Grant ID: DAF2021-237435

Michale J Fox Foundation

Grant ID: ASAP-020607

NINDS

Grant ID: F31NS125985

Howard Hughes Medical Institute

Pew Latin American Fellows Program in the Biomedical Sciences

Foerster-Bernstein Post-Doctoral Fellowship Program for Women in STEM

Holland-Trice Scholars Award for high risk/high impact discovery in research in Basic Brain Science and Brain Diseases

Aligning Science Across Parkinson's

Grant ID: ASAP-020607

Abstract

Protocols related to the paper *SynBot: An open-source image analysis software for automated quantification of synapses*. Includes details of rat neuron and astrocyte culture, *in vitro* synapse staining, *in vivo* synapse staining, and using SynBot with manual or ilastik thresholding.

Files

 SEARCH

Protocol

NAME

Installing FIJI and SynBot (Windows Version)

VERSION 1

CREATED BY



Justin T Savage
Duke University

OPEN →

Protocol

NAME

Installing FIJI and SynBot (Mac Version)

VERSION 1

CREATED BY



Justin T Savage
Duke University

OPEN →

Protocol

NAME

ilastik install and run for Syn Bot (Windows Version)

VERSION 1

CREATED BY



Justin T Savage
Duke University

OPEN →

Protocol

NAME

ilastik install and run for Syn Bot (Mac Version)

VERSION 1

CREATED BY



Justin T Savage
Duke University

OPEN →

Protocol

NAME

Quantifying Synaptic Colocalizations with SynBot (Manual Thresholding)

VERSION 1

CREATED BY



Justin T Savage
Duke University

OPEN →

Protocol

NAME

Quantifying Synaptic Colocalizations with SynBot (ilastik Thresholding)

VERSION 1

CREATED BY



Justin T Savage
Duke University

OPEN →

Protocol

NAME

🔗 Synapse Staining - IHC - VGluT1 and PSD95 - Mouse Brain Sections

VERSION 1

CREATED BY



Juan Ramirez

OPEN →

Protocol

NAME

Astrocyte Isolation and ACM Production

VERSION 1

CREATED BY



Justin T Savage
Duke University

OPEN →



Protocol

NAME

Glia-Free Cortical Neuronal Feeding Schedule - Synapse Formation

VERSION 1

CREATED BY



Justin T Savage
Duke University

OPEN →

Protocol

NAME

Glia-Free Cortical Neuron Culture

VERSION 1

CREATED BY



Justin T Savage
Duke University

OPEN →

Protocol

NAME

Synapse Quantification with Puncta Analyzer

VERSION 1

CREATED BY



Justin T Savage
Duke University

OPEN →

Protocol

NAME

Creating Simulated Synapse Images

VERSION 1

CREATED BY



Justin T Savage
Duke University

OPEN →