



Jul 10, 2024

Real-time qPCR

 The Journal of Cell Biology

DOI

<https://dx.doi.org/10.17504/protocols.io.j8nlk8mexl5r/v1>

Shiyi Wang¹

¹Duke University



Shiyi Wang

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.j8nlk8mexl5r/v1>

External link: <https://doi.org/10.1083/jcb.202410130>

Protocol Citation: Shiyi Wang 2024. Real-time qPCR. protocols.io <https://dx.doi.org/10.17504/protocols.io.j8nlk8mexl5r/v1>

Manuscript citation:

Salazar MPR, Kolanukuduru S, Ramirez V, Lyu B, Manigault G, Sejourne G, Sesaki H, Yu G, Eroglu C (2025) Mitochondrial fission controls astrocyte morphogenesis and organization in the cortex. The Journal of Cell Biology 224(10). doi: [10.1083/jcb.202410130](https://doi.org/10.1083/jcb.202410130)

License: This is an open access protocol 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 protocol and it's working

Created: July 10, 2024

Last Modified: July 10, 2024

Protocol Integer ID: 103173

Keywords: ASAPCRN, time qpcr

Funders Acknowledgements:

Aligning Science Across Parkinson's (ASAP) initiative

Grant ID: ASAP-020607

Disclaimer

DISCLAIMER – FOR INFORMATIONAL PURPOSES ONLY; USE AT YOUR OWN RISK

The protocol content here is for informational purposes only and does not constitute legal, medical, clinical, or safety advice, or otherwise; content added to **protocols.io** is not peer reviewed and may not have undergone a formal approval of any kind. Information presented in this protocol should not substitute for independent professional judgment, advice, diagnosis, or treatment. Any action you take or refrain from taking using or relying upon the information presented here is strictly at your own risk. You agree that neither the Company nor any of the authors, contributors, administrators, or anyone else associated with **protocols.io**, can be held responsible for your use of the information contained in or linked to this protocol or any of our Sites/Apps and Services.

Abstract

Real-time qPCR



- 1 ****Prepare cDNA Samples**** - Plate cDNA samples on a 96-well qPCR plate.

- 2 ****Prepare Reaction Mix**** - Combine the following in each well: - 5 μ L Fast SYBR Green Master Mix (4385616, Applied Biosystems) - 3 μ L nuclease-free water - 0.5 μ L forward primer - 0.5 μ L reverse primer - 1 μ L cDNA sample

- 3 ****Ensure Technical Replicates**** - Plate each sample two to four times to ensure technical replicates.

- 4 ****Prepare Negative Control**** - Use a control sample consisting of water with primers and Master Mix as a negative control.

- 5 ****Perform qPCR**** - Collect cycle threshold (Ct) values for each well.

- 6 ****Normalize Data**** - Normalize Ct values to GAPDH as a housekeeping gene.

- 7 ****Primer Sequences**** - Forward (F) primer for Atg7: 5'- GTTCGCCCCCTTTAATAGTGC -3' - Reverse (R) primer for Atg7: 5'- TGA ACTCCAACGTCAAGCGG -3'