

Reproducibility report for: Amyloid pathology disrupts gliotransmitter release in astrocytes

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Curation outcome summary: Unable to determine the reproducibility of the work presented in this manuscript.

Box 1: Criteria for repeatability and reproducibility

Model source code provided:

- Source code: a standard procedural language is used (e.g. MATLAB, Python, C)
 - There are details/documentation on how the source code was compiled
 - There are details on how to run the code in the provided documentation
 - The initial conditions are provided for each of the simulations
 - Details for creating reported graphical results from the simulation results
- Source code: a declarative language is used (e.g. SBML, CellML, NeuroML)
 - The algorithms used are defined or cited in previous articles
 - The algorithm parameters are defined
 - Post-processing of the results are described in sufficient detail

Executable model provided:

- The model is executable without source (e.g. desktop application, compiled code, online service)
 - There are sufficient details to repeat the required simulation experiments

The model is described mathematically in the article(s):

- Equations representing the biological system
- There are tables or lists of parameter values
- There are tables or lists of initial conditions
- Machine-readable tables of parameter values
- Machine-readable tables of initial conditions

The simulation experiments using the model are described mathematically in the article:

- Integration algorithms used are defined
- Stochastic algorithms used are defined
- Random number generator algorithms used are defined
- Parameter fitting algorithms are defined
- The paper indicates how the algorithms yield the desired output



Box 2: Criteria for accessibility

- Model/source code is available at a public repository or researcher's web site
 - Prohibitive license provided
 - Permissive license provided
 - Open-source license provided
- All initial conditions and parameters are provided
- All simulation experiments are fully defined (events listed, collection times and measurements specified, algorithms provided, simulator specified, etc.)

Box 3: Rules for Credible practice of Modeling and Simulation^a

^aModel credibility is assessed using the Interagency Modeling and Analysis Group conformance rubric:
<https://www.imagwiki.nibib.nih.gov/content/10-simple-rules-conformance-rubric>

- Define context clearly: Extensive
- Use appropriate data: Extensive
- Evaluate within context: Extensive
- List limitations explicitly: Insufficient
- Use version control: Insufficient
- Document adequately: Partial
- Conform to standards: Insufficient

Box 4: Evaluation

- Model and its simulations could be repeated using provided declarative or procedural code
- Model and its simulations could be reproduced



Summary comments: No link to model codes or data was submitted alongside this manuscript. The authors reported that these will be made available after publication on the Github repository (<https://github.com/anupgp/astrocytic.process>). As a result we were unable to determine the reproducibility of the work presented.

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