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Permalink

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Journal

Molecular Biology of the Cell, 27(18)

ISSN

1059-1524

Authors

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Publication Date

2016-09-15

DOI

10.1091/mbc.e16-08-0585

Peer reviewed

Setting the bar for cell biology best practices

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The reproducibility of scientific findings is of great importance to all researchers. If our work cannot be reproduced and built upon by our peers and successors, it is of little value to the scientific enterprise.

In a 2015 white paper, the American Society for Cell Biology Reproducibility Task Force noted that scientific journals have an important role in ensuring that the work reported in them is reproducible (American Society for Cell Biology, 2015). *Molecular Biology of the Cell* (MBoC) has always supported the sound research and publishing practices that promote the reproducibility of scientific findings (Drubin, 2015). Recently it has offered guidance and a publication venue for communities of researchers to create standards and guidelines that can serve as best practices in particular fields (Klionsky, 2016; Lee and Drubin, 2016). Now MBoC is pleased to offer a checklist that authors, reviewers, and editors can use to promote reproducibility by ensuring that work submitted to the journal is carefully conceived, analyzed, and presented.

The checklist will be easy to use. There are four sections: Data Presentation, Methodology and Statistics, Reagents and Model

Systems, and Data Accessibility. When submitting a manuscript, authors will be asked to answer only four questions confirming that their article meets the applicable requirements for each section or, if it does not, to provide an explanation. The answers to the questions and the explanations will be available to editors and reviewers.

Importantly, the checklist should not be a burden to authors. We have carefully designed it to address only those areas that are likely to apply to articles in cell biology. And rather than being yet another hurdle that scientists must overcome to publish their work, the checklist is intended to be a formal reminder of the research and data presentation practices that most of us use routinely anyway. It is a tool to help authors present their work clearly and in a way that is most useful to their peers.

The checklist was developed by a task force of MBoC Editorial Board members chaired by one of us (J.E.S.) and including Associate Editors Fred Chang, Rick Fehon, Greg Matera, Alex Mogilner, and Carol Parent. The committee members are working scientists with expertise in a broad range of cell biology research areas. We are tremendously grateful for their guidance. Other members of the Editorial Board were invited to comment on the draft, and several made helpful suggestions that were incorporated into the final version of the checklist.

The checklist can be viewed at www.ascb.org/files/mboc-checklist.pdf. Authors who submit an article or brief report to MBoC on or after November 15, 2016, will be required to use the checklist. In the meantime, researchers may find it helpful in preparing their manuscripts regardless of where they plan to submit them.

Each of us is adding bricks one by one to the edifice of science. We should all be committed to ensuring that the structure is sound. MBoC wants to help.

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DOI:10.1091/mbc.E16-08-0585

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