

Peer review checklist

Questions to consider when reviewing:

- Title
 - Is the title intelligible?
 - Is the title of a reasonable length?
 - Does the title accurately describe the research article?
- Abstract
 - Does it state the research question?
 - Does it summarize the major findings of the paper?
 - Are the points made justified by the results?
 - Is the text limited to objective statements?
- Introduction
 - Have the authors provided a fair overview of the literature?
 - Have the authors included all the relevant citations (i.e. have the researchers omitted individual publications or sections of the literature directly pertinent to the issue at hand?)
 - Are the references correct?
 - Is the writing easy to follow?
 - Is the writing of a sufficient grammatical standard?
 - Is the introduction succinct?
- Methods
 - Are all the methods used in the article described?
 - Have the authors described all growth conditions?
 - Have the authors described all the strains used, with genotypes?
 - Have the authors described the growth media used?
 - Have the authors described components of buffers?
 - Have the source of materials been appropriately described (e.g. stock centre and identifier for strain, source and identity of antibodies)
 - If using mathematical models have these been described in sufficient detail?
 - Have the authors cited appropriate studies (i.e. cited studies that contain methods not additional citations)?
 - Are the methods in paragraph format? ? (i.e. not provided in a recipe format - this type of protocol is more suitable for extended methods sections).
- Graphs and figures
 - Figure: does the data presented in each figure accurately described in the figure legend and results (is the interpretation of the data valid)?
 - Figure: is the data presented an experimental result with biological significance rather than confirmatory supporting data more suited to supplementary sections (e.g. gel images of steps involved in plasmid construction)?
 - Chart: have authors used the appropriate chart type to display the data (is it possible/appropriate to include all data points rather than summary data that may obscure relevant information)?
 - Chart: are the axes appropriately labelled?

- Chart: is it legible and easy to follow? (e.g. can you read the font, clearly make out the data on the chart).
- Chart: has statistical significance been reported where appropriate?
- Chart: has the sample size been provided?
- Chart: are the statistical tests valid given the distribution of the data?
- Legend: is there sufficient information to understand the figure?
- Legend: have the authors limited themselves to including a description of the figure? (i.e. not included discussion or methods).
- Table: are the column headers appropriate?
- Table: have units been provided in column headers?
- Table: if including numeric values, is the number of significant figures used reasonable?
- Figure: have the authors duplicated or repeated and panels in figures?
- Figure: have the authors provided sufficient information for the correct interpretation of a figure (e.g. for western blots have they been sliced?)
- Figure: is there any evidence of image manipulation?
- Results
 - Have the authors sufficiently and accurately described the data presented in each figure?
 - Are data quantified where appropriate (i.e. when qualitative information is insufficient)?
 - Are individual data/images representative of quantified data?
 - Have the authors used appropriate statistical tests to analyse their data?
 - Are the author's conclusions justified by their data?
 - Have all the necessary control experiments been performed?
- Discussion
 - Have the authors put their results in context of previously reported findings?
 - Have relevant citations been included that may influence the interpretation of results?
 - Are there confounding factors that could impact on the conclusions drawn from experiments?
 - Are the citations correct?
 - Have the authors discussed the implications of their findings rather than repeat a description of the results?
 - Are the discussion points presented in a logical manner?
 - Are limitations of the current study highlighted?
- Data
 - Have the authors deposited their raw data in a [suitable database](#)?
 - Have the authors provided sufficient information to reproduce figures in the text?
 - Have the authors deposited their code in a suitable repository which provides a [DOI](#)? e.g. ([Dryad](#), [FigShare](#), etc. Note the problem with GitHub repositories is they can be deleted)
 - Have the authors used [RRIDs](#)?