Materials Design Analysis Reporting (MDAR) Checklist for Authors

The MDAR framework establishes a minimum set of requirements in transparent reporting applicable to studies in the life sciences (see Statement of Task: doi:10.31222/osf.io/9sm4x.). The MDAR checklist is a tool for authors, editors and others seeking to adopt the MDAR framework for transparent reporting in manuscripts and other outputs. Please refer to the MDAR Elaboration Document for additional context for the MDAR framework.

Materials

Antibodies	Yes (indicate where provided: section/paragraph)	n/a
For commercial reagents, provide supplier name, catalogue number and RRID, if available.	We did not use the commercial reagents, because we only used the bioinformatics analysis.	n/a

Cell materials	Yes (indicate where provided: section/paragraph)	n/a
Cell lines: Provide species information, strain. Provide accession number in repository **OR** supplier name, catalog number, clone number, **OR** RRID	We did not use the cell lines in the manuscript.	n/a
Primary cultures: Provide species, strain, sex of origin, genetic modification status.	We did not use the primary cultures in the manuscript.	n/a

Experimental animals	Yes (indicate where provided: section/paragraph)	n/a
Laboratory animals: Provide species, strain, sex, age, genetic modification status. Provide accession number in repository **OR** supplier name, catalog number, clone number, **OR** RRID	We did not use the laboratory animal in the manuscript.	n/a
Animal observed in or captured from the field: Provide species, sex and age where possible	We did not use the animals observed in or captured from the field in the manuscript.	n/a
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID	We did not use the model organisms in the manuscript.	n/a

Plants and microbes	Yes (indicate where provided: section/paragraph)	n/a
Plants: provide species and strain, unique accession number if available, and source (including location for collected wild specimens)	We did not use the plants in the manuscript.	n/a
Microbes: provide species and strain, unique accession number if available, and source	We did not use the microbes in the manuscript.	n/a

Human research participants	Yes (indicate where provided: section/paragraph)	n/a
Identify authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	There are no human research participants in the manuscript.	n/a
Provide statement confirming informed consent obtained from study participants.	There are no human research participants in the manuscript.	n/a
Report on age and sex for all study participants.	There are no human research participants in the manuscript.	n/a

Design

Study protocol	Yes (indicate where provided: section/paragraph)	n/a
For clinical trials, provide the trial registration number **OR** cite DOI in manuscript.	This is not a clinical trial.	n/a

Laboratory protocol	Yes (indicate where provided: section/paragraph)	n/a
Provide DOI or other citation details if detailed step-by-step protocols are available.	There is no detailed step-by-step protocols.	n/a

Experimental study design (statistics details)	Yes (indicate where provided: section/paragraph)	n/a
State whether and how the following have been done**, or** if they were not carried out.	There is no experimental study in this manuscript.	n/a
Sample size determination	There is no experimental study in this manuscript.	n/a
Randomisation	There is no experimental study in this manuscript.	n/a
Blinding	There is no experimental study in this manuscript.	n/a
Inclusion/exclusion criteria	There is no experimental study in this manuscript.	n/a

Sample definition and in-laboratory replication	Yes (indicate where provided: section/paragraph)	n/a
State number of times the experiment was replicated in laboratory	There is only the bioinformatics analysis in our manuscript.	n/a
Define whether data describe technical or biological replicates	There is only the bioinformatics analysis in our manuscript.	n/a

Ethics	Yes (indicate where provided: section/paragraph)	n/a
Studies involving human participants: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	This is not a study involving human participants.	n/a
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	This is not a study involving experimental animals.	n/a
Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why.	This is not a study involving specimen and field samples.	n/a

Dual Use Research of Concern (DURC)	Yes (indicate where provided: section/paragraph)	n/a
If study is subject to dual use research of concern, state the authority granting approval and reference number for the regulatory approval	This is not a Dual Use Research of Concern.	n/a

Analysis

Attrition	Yes (indicate where provided: section/paragraph)	n/a
State if sample or data point from the analysis is excluded, and whether the criteria for exclusion were determined and specified in advance.	See the "Materials and Methods", Paragraph 2 and Paragraph 7.	

Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of tests.	See Page 5, the last paragraph.	

Data Availability	Yes (indicate where provided: section/paragraph)	n/a
State whether newly created datasets are available, including protocols for access or restriction on access.	See the "Materials and Methods", Paragraph 1, Paragraph 3, Paragraph 7.	
If data are publicly available, provide accession number in repository or DOI or URL.	See the "Materials and Methods", Paragraph 1, Paragraph 3, Paragraph 7.	
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	See the "Materials and Methods", Paragraph 1, Paragraph 3, Paragraph 7.	

Code Availability	Yes (indicate where provided: section/paragraph)	n/a
For all newly generated code and software essential for replicating the main findings of the study:	See the "Materials and Methods", Paragraph 1, Paragraph 3, Paragraph 7.	
State whether the code or software is available.	See the "Materials and Methods", Paragraph 1,	
If code is publicly available, provide accession number in repository, or DOI or URL.	See the "Materials and Methods", Paragraph 1, Paragraph 3, Paragraph 7.	

Reporting

Adherence to community standards	Yes (indicate where provided: section/paragraph)	n/a
MDAR framework recommends adoption of discipline-specific guidelines, established and endorsed through community initiatives. Journals have their own policy about requiring specific guidelines and recommendations to complement MDAR.	See Page 10, Paragraph 1.	
State if relevant guidelines (eg., ICMJE, MIBBI, ARRIVE) have been followed, and whether a checklist (eg., CONSORT, PRISMA, ARRIVE) is provided with the manuscript.	ICMJE guidelines were followed, as the journal follows ICMJE recommendations for publication.	

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