

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](https://doi.org/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.	Supplementary appendix, Page 5, Line 99-102, Section "Validation of selected genes with western blots".	
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	Cell lines were not used in the study.	X
Primary cultures: Provide species, strain, sex of origin, genetic modification status.	Primary cultured were not used in the study.	X
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	Animal samples were not used in the study.	X
Animal observed in or captured from the field: Provide species, sex and age where possible	Animal samples were not used in the study.	X
Model organisms: Provide Accession number in repository (where relevant) OR RRID	Animal samples were not used in the study.	X
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)	Plants were not used in the study.	X
Microbes: provide species and strain, unique accession number if available, and source	Microbes were not used in the study.	X
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.	Page 7, Line 170-173, Section methods, Paragraph 4.	
Provide statement confirming informed consent obtained from study participants.	Page 7, Line 170-173, Section methods, Paragraph 4.	
Report on age and sex for all study participants.	Table 1.	

Design

Study protocol	Yes (indicate where provided: section/paragraph)	n/a
For clinical trials, provide the trial registration number OR cite DOI in manuscript.	The study is not a clinical trial study.	X
Laboratory protocol	Yes (indicate where provided: section/paragraph)	n/a
Provide DOI or other citation details if detailed step-by-step protocols are available.	Page 6, Line 135, Section methods, Paragraph 1. Page 7, Line 159, Section methods, Paragraph 2.	
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.		
Sample size determination	Was not carried out.	X
Randomisation	Was not carried out.	X
Blinding	Was not carried out.	X
Inclusion/exclusion criteria	Page 6, Line 135-143, Section methods, Paragraph 1.	
Sample definition and in-laboratory replication	Yes (indicate where provided: section/paragraph)	n/a
State number of times the experiment was replicated in laboratory	The experiment was not replicated.	X
Define whether data describe technical or biological replicates	The experiment was not replicated.	X
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.	Page 7, Line 170-173, Section methods, Paragraph 4.	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	The study does not involve experimental animals.	X
Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why.	Page 7, Line 170-173, Section methods, Paragraph 4.	
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	The study is not subject to dual use research concern.	X

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.	No sample or data point from the analysis was excluded, exclusion criteria were defined and specified in advance. Page 6, Line 142-143, Section methods, Paragraph 1.	
Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of tests.	Page 7, Line 161-168, Section methods, Paragraph 3.	
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.	Newly created datasets are not available.	X
If data are publicly available, provide accession number in repository or DOI or URL.	Data is not publicly available.	X
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	Publicly available data is not reused.	X
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:		
State whether the code or software is available.	It is not a newly generated code or software.	X
If code is publicly available, provide accession number in repository, or DOI or URL.	The study does not generate a code.	X

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.		
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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