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.	√ In section "Materials and methods", paragraph 1.	

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.	There's no cell line used in this study.	√
Primary cultures: Provide species, strain, sex of origin, genetic modification status.	√ In section "Materials and methods", paragraph 3 and 4.	

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	√ In section "Materials and methods", paragraph 13.	
Animal observed in or captured from the field: Provide species, sex and age where possible	There's no animal observed in or captured from the field in this study.	√
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID	There's no model organisms used in this study.	√

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)	There's no plants used in this study.	√
Microbes: provide species and strain, unique accession number if available, and source	There's no microbes used in this study.	√

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's no human research participants in this study.	√
Provide statement confirming informed consent obtained from study participants.	There's no human research participants in this study.	√
Report on age and sex for all study participants.	There's no human research participants in this study.	√

Design

Study protocol	Yes (indicate where provided: section/paragraph)	n/a
For clinical trials, provide the trial registration number **OR** cite DOI in manuscript.	There's no clinical trials in this study.	√

Laboratory protocol	Yes (indicate where provided: section/paragraph)	n/a
Provide DOI or other citation details if detailed step-by-step protocols are available.	√ In section "Materials and methods", paragraph 2, 3, 4, 7, and 13.	

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	In section "Materials and methods", paragraph 6, 8, 9, 10, 11, 12, 13, 14, and 15.	
Randomisation	In section "Materials and methods", paragraph 10 and 13.	
Blinding	In section "Materials and methods", paragraph 14 and 15.	√
Inclusion/exclusion criteria	In section "Materials and methods", paragraph 13.	√

Sample definition and in-laboratory replication	Yes (indicate where provided: section/paragraph)	n/a
State number of times the experiment was replicated in laboratory	√In section "Figure legends", paragraph 1, 2, 3, 4, 7, and 8.	
Define whether data describe technical or biological replicates	√In section "Figure legends", paragraph 1, 2, 3, 4, 7, and 8.	

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.	There's no human research participants in this study.	√
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	√In section "Materials and methods", paragraph 13.	
Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why.	There's no field samples used in this study.	√

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 any dual use research of concern.	√

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.	√In section "Materials and methods", paragraph 13.	

Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of tests.	√In section "Materials and methods", paragraph 18.	

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.	There's no created datasets in this study.	√
If data are publicly available, provide accession number in repository or DOI or URL.	There's no created datasets in this study.	√
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	There's no created datasets in this study.	√

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.	There's no newly generated code and software essential for replicating the main findings of this study.	√
If code is publicly available, provide accession number in repository, or DOI or URL.	There's no newly generated code and software essential for replicating the main findings of this study.	√

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.	ICMJEE guidelines were followed, as the journal follows ICMJE recommendations for publication.	

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