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:	n/a
For commercial reagents, provide supplier name, catalogue number and RRID, if available.		Antibodies were not used in this study.

Cell materials	Yes (indicate where provided:	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 this study.
Primary cultures: Provide species, strain, sex of origin, genetic modification status.		Primary cultures were not used in this study.

Experimental animals	Yes (indicate where provided:	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		Laboratory animals were not used in this study.
Animal observed in or captured from the field: Provide species, sex and age where possible		Animal observed in or captured from the field were not used in this study.
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID		Model organisms were not used in this study.

Plants and microbes	Yes (indicate where provided:	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 this study.
Microbes: provide species and strain, unique accession number if available, and source		Microbes were not used in this study.

Human research participants	Yes (indicate where provided:	n/a
Identify authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	Line 96-98, page 4.	
Provide statement confirming informed consent obtained from study participants.	Line 98, page 4.	
Report on age and sex for all study participants.	Line 146-148, page 6.	

Design

Study protocol	Yes (indicate where	n/a
For clinical trials, provide the trial registration number **OR** cite DOI in manuscript.		There were no clinical trials in this study.

Laboratory protocol	Yes (indicate where	n/a
Provide DOI or other citation details if detailed step-by-step protocols are available.		There were no laboratory experiments in this study.

Experimental study design (statistics details)	Yes (indicate where	n/a
State whether and how the following have been done**, or** if they were not carried out.		
Sample size determination	Line 92-94, page 4.	
Randomisation		Randomisation was not included.
Blinding		Blinding was not included.
Inclusion/exclusion criteria	Line 105-110, Page 5.	

Sample definition and in-laboratory replication	Yes (indicate where	n/a
State number of times the experiment was replicated in laboratory		There were no laboratory experiments in this study.
Define whether data describe technical or biological replicates		There were no laboratory experiments in this study.

Ethics	Yes (indicate where	n/a
Studies involving human participants: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	Line 96-98, page 4.	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.		No experimental animals were included in this study.
Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why.	Line 96-98, page 4.	

Dual Use Research of Concern (DURC)	Yes (indicate where	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 study is subject not to DURC.

Analysis

Attrition	Yes (indicate where	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 samples were excluded in this study.

Statistics	Yes (indicate where	n/a
Describe statistical tests used and justify choice of tests.	Line 130-131, page 6. Line 137-140, page 6.	

Data Availability	Yes (indicate where	n/a
State whether newly created datasets are available, including protocols for access or restriction on access.		The newly created datasets are not available, because further study still need to include these data.
If data are publicly available, provide accession number in repository or DOI or URL.		The data was not publicly available.
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	Line 105-106, page 5.	

Code Availability	Yes (indicate where	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.	Line 114-118, 126-131, 135-137, page 5-6.	
If code is publicly available, provide accession number in repository, or DOI or URL.	Line 114-118, 126-131, 135-137, page 5-6.	

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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