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.	The name of the kit supplier has been indicated in the method section.	

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		No cell line was used in this study.
Primary cultures: Provide species, strain, sex of origin, genetic modification status.		No cell materials was used in this study.

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		No experimental animals were used in this study. this study.
Animal observed in or captured from the field: Provide species, sex and age where possible		No experimental animals were used in this study.
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID		No experimental animals were 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)		No plants and microbes were used in this study.
Microbes: provide species and strain, unique accession number if available, and source		No plants and microbes were 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.	In the Ethics Statement section of the article.	
Provide statement confirming informed consent obtained from study participants.	In the Ethics Statement section of the article.	
Report on age and sex for all study participants.	In 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.		This study is not a clinical trial.

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 step-by-step

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.	In the method section.	
Sample size determination	In the method section.	
Randomisation		This study is a retrospective study and has not been randomized.
Blinding		This study is a retrospective study and did not cause blindness.
Inclusion/exclusion criteria	In the method section.	

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 the method section.	
Define whether data describe technical or biological replicates	In the method section.	

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.	In the Ethics Statement section of the article.	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.		There are no animal experiments 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.	In the Ethics Statement section of the article.	

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 study does not require a related dual-use study.

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 the method section.	

Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of tests.	In the method section.	

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.	The datasets used during the current study available from the corresponding author on reasonable request.	
If data are publicly available, provide accession number in repository or DOI or URL.		The data of this study is not public.
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.		This study did not reuse publicly available data.

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:		There is no code data for this
State whether the code or software is available.		There is no code data for this
If code is publicly available, provide accession number in repository, or DOI or URL.		There is no code data for this

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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