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.	Antibodies were not used in this study.	

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 materials were not used in this study.	
Primary cultures: Provide species, strain, sex of origin, genetic modification status.		

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

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 and microbes were not used in this study.	
Microbes: provide species and strain, unique accession number if available, and source		

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.	Yes (Materials and Methods/ line 93-97)	(Page 3 /
Provide statement confirming informed consent obtained from study participants.	Yes (Materials and Methods/ line 97)	Page 3/
Report on age and sex for all study participants.	Yes (Table 1/ line 428)	Pag

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.	This study did not have laboratory protocol.	

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.	This is not a experimental study.	
Sample size determination		
Randomisation		
Blinding		
Inclusion/exclusion criteria		

Sample definition and in-laboratory replication	Yes (indicate where provided: section/paragraph)	n/a
State number of times the experiment was replicated in laboratory	This is not a in-laboratory study.	
Define whether data describe technical or biological replicates		

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.	Yes (Materials and Methods/ line 93-97 and Footnote / line340-351)	Page 3/ lin
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	This study did not involve experimental animals.	
Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why.	This study did not involve specimen and field samples.	

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 did not include 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.	Yes (Material and method / line 153-195)	

Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of tests.	Yes (Material and method / line 153-195)	

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 data are not availability since this study is not finished.	
If data are publicly available, provide accession number in repository or DOI or URL.	The data are not available since this study is not finished.	
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	The data are not available since this study is not finished.	

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:	The newly generated code is not available since this study is not finished.	
State whether the code or software is available.	The newly generated code is not available since this	
If code is publicly available, provide accession number in repository, or DOI or URL.	The newly generated code is not available since this study is not finished.	

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.	Yes (Footnote / line 341)	Page11/ line341
State if relevant guidelines (eg., ICMJE, MIBBI, ARRIVE) have been followed, and whether a checklist (eg., CONSORT, PRISMA, ARRIVE) is provided with the manuscript.	Yes (Materials and methods / line 93-95 and Footnote / line 344-346) ICMJE guidelines were followed, as the journal follows ICMJE recommendations for publication.	Page3/ line 93-95

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