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.	We did not use antibodies.	n/a

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	We did use cell lines.	n/a
Primary cultures: Provide species, strain, sex of origin, genetic modification status.	We did not use primary cultures.	n/a

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	We did not use laboratory animals.	n/a
Animal observed in or captured from the field: Provide species, sex and age where possible	We did not observe or capture animals from the field.	n/a
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID	We did not use model organisms.	n/a

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)	We did not use plants.	n/a
Microbes: provide species and strain, unique accession number if available, and source	We did not use microbes.	

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. Pearl Institutional Review Board, protocol number 17-ENVI-107. Please see Methods section, paragraph 7, and Footnote	
Provide statement confirming informed consent obtained from study participants.	Informed consent was obtained from all participants prior to their participation in the study.	
Report on age and sex for all study participants.	Men, age 20-29	

Design

Study protocol	Yes (indicate where provided: section/paragraph)	n/a
For clinical trials, provide the trial registration number **OR** cite DOI in manuscript.	Yes, see page 15, line 10	

Laboratory protocol	Yes (indicate where provided: section/paragraph)	n/a
Provide DOI or other citation details if detailed step-by-step protocols are available.	We did not use step-by-step laboratory protocols.	n/a

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	See page 10, lines 10-13	
Randomisation	We did not randomize.	n/a
Blinding	We did not have blinding.	n/a
Inclusion/exclusion criteria	Yes, Page 6, lines 11-23; page 7, lines 1-2	

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

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, page 7, lines 17-18	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	Our study did not involve experimental animals.	n/a
Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why.	Our study did not involve specimen or field samples.	n/a

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	Our study did not involve dual use research of concern.	n/a

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 were excluded from the analysis. Exclusion criteria were determined and specified in advance, see page 7, lines 1-2.	

Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of tests.	Yes, see page 10, lines 15-17.	

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.	n/a
If data are publicly available, provide accession number in repository or DOI or URL.	Our data is not publicly available.	n/a
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	Our study did not use publicly-available data.	n/a

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.	No newly-generated code or software were used.	n/a
If code is publicly available, provide accession number in repository, or DOI or URL.	No code was used.	n/a

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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