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 Methods section, Eighth paragraph	

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	In Methods section, Second paragraph	
Primary cultures: Provide species, strain, sex of origin, genetic modification status.	In Methods section, Second paragraph	

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	This study did not address animals.	**n/a**
Animal observed in or captured from the field: Provide species, sex and age where possible	This study did not address animals.	**n/a**
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID	This study did not address animals.	**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)	This study did not address plants.	**n/a**
Microbes: provide species and strain, unique accession number if available, and source	In Methods section, First paragraph	

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.	This study did not address human research.	**n/a**
Provide statement confirming informed consent obtained from study participants.	This study did not address human research.	**n/a**
Report on age and sex for all study participants.	This study did not address human research.	**n/a**

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 did not address human research.	**n/a**

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 address these aspects.	**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	This study did not address these aspects.	**n/a**
Randomisation	This study did not address these aspects.	**n/a**
Blinding	This study did not address these aspects.	**n/a**
Inclusion/exclusion criteria	This study did not address these aspects.	**n/a**

Sample definition and in-laboratory replication	Yes (indicate where provided: section/paragraph)	n/a
State number of times the experiment was replicated in laboratory	The number of times the experiment was replicated in laboratory is provided in the figure legends.	
Define whether data describe technical or biological replicates	The number of times the experiment was replicated in laboratory is provided in the figure legends.	

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.	This study did not involve ethics.	**n/a**
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 ethics.	**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.	This study did not involve ethics.	**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	This study is not subject to 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.	The sample or data point from the analysis is not excluded.	**n/a**

Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of tests.	In Statistical analysis 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.	Yes	
If data are publicly available, provide accession number in repository or DOI or URL.	There is currently no accession number in repository or DOI or URL.	**n/a**
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	There is no publicly available data reused.	**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.	There is not newly generated code and software for this study.	**n/a**
If code is publicly available, provide accession number in repository, or DOI or URL.	There is not newly generated code and software for this study.	**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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