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: page no/section/legend)	n/a
For commercial reagents, provide supplier name, catalogue number and RRID, if available.	Supplementary table 1	

Cell materials	Yes (indicate where provided: page no/section/legend)	n/a
Cell lines: Provide species information, strain. Provide accession number in repository **OR** supplier name, catalog number, clone number, **OR** RRID	Methods section: lines 128-133	
Primary cultures: Provide species, strain, sex of origin, genetic modification status.	(primary cultures are not used in the current study)	X

Experimental animals	Yes (indicate where provided: page no/section/legend)	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 are not used in the current study)	x
Animal observed in or captured from the field: Provide species, sex and age where possible	(not used in the current study)	x
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID	(model organisms are not used in the current study)	x

Plants and microbes	Yes (indicate where provided: page no/section/legend)	n/a
Plants: provide species and strain, unique accession number if available, and source (including location for collected wild specimens)	(not used in the current study)	x
Microbes: provide species and strain, unique accession number if available, and source	(not used in the current study)	x

Human research participants	Yes (indicate where provided: page no/section/legend)	n/a
Identify authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	Lines 168-170	
Provide statement confirming informed consent obtained from study participants.	Lines 171-173	
Report on age and sex for all study participants.	Table 1	

Design

Study protocol	Yes (indicate where provided: page no/section/legend)	n/a
For clinical trials, provide the trial registration number **OR** cite DOI in manuscript.	(The current study is not a clinical trial)	x

Laboratory protocol	Yes (indicate where provided: page no/section/legend)	n/a
Provide DOI or other citation details if detailed step-by-step protocols are available.	Method section reports laboratory protocols and relative citations	

Experimental study design (statistics details)	Yes (indicate where provided: page no/section/legend)	n/a
State whether and how the following have been done**, or** if they were not carried out.		
Sample size determination	(not required for the nature of the work)	x
Randomisation	(not required for the nature of the work)	x
Blinding	(not required for the nature of the work)	x
Inclusion/exclusion criteria	Lines 165-167	

Sample definition and in-laboratory replication	Yes (indicate where provided: page no/section/legend)	n/a
State number of times the experiment was replicated in laboratory	The number of replicates in specified in the Figure (and supplementary figure) captions	
Define whether data describe technical or biological replicates	Biological replicates are defined in figure (and supplementary figure) captions	

Ethics	Yes (indicate where provided: page no/section/legend)	n/a
Studies involving human participants: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	Lines 168-170	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	(not involving experimental animals)	x
Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why.	(not involving specimen and field samples)	x

Dual Use Research of Concern (DURC)	Yes (indicate where provided: page no/section/legend)	n/a
If study is subject to dual use research of concern, state the authority granting approval and reference number for the regulatory approval	(the study is not subject to DURC)	x

Analysis

Attrition	Yes (indicate where provided: page no/section/legend)	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 excluded)	x

Statistics	Yes (indicate where provided: page no/section/legend)	n/a
Describe statistical tests used and justify choice of tests.	Subheading "statistical analysis" in the methods section	

Data Availability	Yes (indicate where provided: page no/section/legend)	n/a
State whether newly created datasets are available, including protocols for access or restriction on access.	(a separate Data Sharing Statement has been provided)	x
If data are publicly available, provide accession number in repository or DOI or URL.	(no publicly available data)	x
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	(no publicly available data reused)	x

Code Availability	Yes (indicate where provided: page no/section/legend)	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 softwares or codes)	x
If code is publicly available, provide accession number in repository, or DOI or URL.	(no newly generated softwares or codes)	x

Reporting

Adherence to community standards	Yes (indicate where provided: page no/section/legend)	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.	The manuscript has been prepared according to ICMJE guidelines, according to TLCR journal requirements.	x

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