<u>Materials Design Analysis Reporting (MDAR)</u> 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	Experimental Methods (page 6,line 6)	
name, catalogue number and RRID, if available.		

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,	Experimental Methods (page 6,line 11-22)	
OR RRID		
Primary cultures: Provide species, strain, sex of	Experimental Methods (page 6,line 11-22)	
origin, genetic modification status.		

Experimental animals	Yes (indicate where provided: section/paragraph)	n/a
Laboratory animals: Provide species, strain, sex, age,		N/A
genetic modification status. Provide accession		
number in repository OR supplier name, catalog		
number, clone number, OR RRID		
Animal observed in or captured from the		N/A
field: Provide species, sex and age where		
possible		
Model organisms: Provide Accession number		N/A
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)		N/A
Microbes: provide species and strain, unique accession number if available, and source		N/A

Human research participants	Yes (indicate where provided: section/paragraph)	n/a
Identify authority granting ethics approval (IRB or	Methods (page 6, line 26-33, page 7, line 1-33, page 8,	
equivalent committee(s), provide reference number	line 1-20)	
for approval.		
Provide statement confirming informed consent	Methods (page 9,line 17-20)	
obtained from study participants.		
Report on age and sex for all study participants.	Methods (page 6, line 26-33, page 7, line 1-33, page 8,	
	line 1-20)	

<u>Design</u>

Study protocol	Yes (indicate where provided: section/paragraph)	n/a
For clinical trials, provide the trial registration	Methods (page 6, line 26-33, page 7, line 1-33, page	
number OR cite DOI in manuscript.	8, line 1-20)	

Laboratory protocol	Yes (indicate where provided: section/paragraph)	n/a
Provide DOI or other citation details if detailed step-	Methods (page 7, line 1-34, page 8, line 1-34, page 9,	
by-step protocols are available.	line 1-15)	

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	Methods (page 9, line 8-15)	
Randomisation	Methods (page 9, line 8-15)	
Blinding	Methods (page 9, line 8-15)	
Inclusion/exclusion criteria	Methods (page 9, line 8-15)	

Sample definition and in-laboratory replication	Yes (indicate where provided: section/paragraph)	n/a
State number of times the experiment was replicated in laboratory		N/A
Define whether data 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.	Footnote(page 17, line 17-25)	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	Footnote(page 17, line 17-25)	
Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why.	Footnote(page 17, line 17-25)	

Dual Use Research of Concern (DURC)	Yes (indicate where provided: section/paragraph)	n/a
If study is subject to dual use research of concern,		N/A
state the authority granting approval and reference		
number for the regulatory approval		

Analysis

Attrition	Yes (indicate where provided: section/paragraph)	n/a
State if sample or data point from the analysis is	Methods (page 6, line 26-33, page 7, line 1-33, page 8,	
excluded, and whether the criteria for exclusion were	line 1-20)	
determined and specified in advance.		

Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of	Methods (page 9, line 8-15)	
tests.		

Data Availability	Yes (indicate where provided: section/paragraph)	n/a
State whether newly created datasets are available,	Front page (page 1, line 24)	
including protocols for access or restriction on access.		
If data are publicly available, provide accession	Front page (page 1, line 24)	
number in repository or DOI or URL.		
If publicly available data are reused, provide	Front page (page 1, line 24)	
accession number in repository or DOI or URL, where		
possible.		

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.	Front page (page 1, line 24)	
If code is publicly available, provide accession number in repository, or DOI or URL.	Front page (page 1, line 24)	

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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