<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		×
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,		
OR RRID		
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		
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)		
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.		
Provide statement confirming informed consent		×
obtained from study participants.		
Report on age and sex for all study participants.		×

① 批注 [Office1]: place a"★"in the column if not applicable.

Design

Study protocol	Yes (indicate where provided: section/paragraph)	n/a
For clinical trials, provide the trial registration number OR cite DOI in manuscript.		3
Laboratory protocol	Yes (indicate where provided: section/paragraph)	n/a
Provide DOI or other citation details if detailed step- by-step protocols are available.		3
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.		3
Sample size determination		\$
Randomisation		>
Blinding		3
Inclusion/exclusion criteria		1
Sample definition and in-laboratory replication	Yes (indicate where provided: section/paragraph)	n/a
State number of times the experiment was replicated in laboratory		1
Define whether data describe technical or biological replicates		1
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.		
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.		1
Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why.		1
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		1

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.		
Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of	Materials and methods/ Paragraph 5-6 and 9/line 170-	
tests.	172, line 181, line 228	
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.		
If data are publicly available, provide accession		×
number in repository or DOI or URL.		
If publicly available data are reused, provide	Data availability statement/ Paragraph 1/line 605	
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.		×
If code is publicly available, provide accession		*
number in repository, or DOI or URL.		

Reporting

Adherence to community standards	Yes (indicate where provided: section/paragraph)	n/a
MDAR framework recommends adoption of	Introduction/ Paragraph 4/line 123-124	
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,	ICMJE guidelines were followed, as the journal follows	
ARRIVE) have been followed, and whether a checklist	ICMJE recommendations for publication.	
(eg., CONSORT, PRISMA, ARRIVE) is provided with		
the manuscript.		

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