

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](https://doi.org/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.	Section Methods, subsection protein extraction and western blotting/paragraph 1, page 6 line 189-197 (in clear version, the same hereinafter).	
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	Section Methods, subsection cell culture/paragraph 1, page 5 line 138-142.	
Primary cultures: Provide species, strain, sex of origin, genetic modification status.	We don't use any 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 don't use any laboratory animals.	n/a
Animal observed in or captured from the field: Provide species, sex and age where possible	We don't use any observed animals.	n/a
Model organisms: Provide Accession number in repository (where relevant) OR RRID	We don't use any 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 don't use any plants.	n/a
Microbes: provide species and strain, unique accession number if available, and source	We don't use any microbes.	n/a
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.	We only accessed public databases.	n/a
Provide statement confirming informed consent obtained from study participants.	We only accessed public databases.	n/a
Report on age and sex for all study participants.	We only accessed public databases.	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.	Our research is not a clinical trial.	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.	Section Methods, subsection protein extraction and western blotting/paragraph 1, page 6/line 197-198.	
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	We only accessed public databases.	n/a
Randomisation	We only accessed public databases.	n/a
Blinding	We only accessed public databases.	n/a
Inclusion/exclusion criteria	We only accessed public databases.	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	Section Methods, subsection database and statistical analysis/paragraph 2, page 4/line 125-126.	
Define whether data describe technical or biological replicates	Section Methods, subsection database and statistical analysis/paragraph 2, page 4/line 125-126.	
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.	We only accessed public databases.	n/a
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	We only accessed public databases.	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.	We only accessed public databases.	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	We only accessed public databases.	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.	We only accessed public databases and all data was analyzed.	n/a
Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of tests.	Section Methods, subsection database and statistical analysis/paragraph 1, page 4/line 115-118, 121-123 AND paragraph 2, page 4/line 124-127.	
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.	We only accessed public databases.	n/a
If data are publicly available, provide accession number in repository or DOI or URL.	Section Methods, subsection database and statistical analysis, paragraph 1, page 4 line 110-112.	
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	Section Methods, subsection database and statistical analysis/paragraph 1, page 4/line 110-112.	
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.	Section Methods, subsection database and statistical analysis, paragraph 1, page 4 line 112-113, 124-125.	
If code is publicly available, provide accession number in repository, or DOI or URL.	The code is original but all R packages we used are displayed in section Methods, subsection database and statistical analysis/ paragraph 1, page 4/line 118-121.	

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.	Section Introduction/paragraph 4, page 4/line 105-106.	

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