

## **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**

<b>Antibodies</b>	<b>Yes (indicate where provided:section/paragraph)</b>	<b>n/a</b>
For commercial reagents, provide supplier name, catalogue number and RRID, if available.	Yes. In paragraph “Materials and methods”	
<b>Cell materials</b>	<b>Yes (indicate where provided:section/paragraph)</b>	<b>n/a</b>
<b>Cell lines:</b> Provide species information, strain. Provide accession number in repository <b>OR</b> supplier name, catalog number, clone number, <b>OR</b> RRID	Yes. In paragraph “Materials and methods”	
<b>Primary cultures:</b> Provide species, strain, sex of origin, genetic modification status.	N. We have no <b>Primary cultures</b> .	
<b>Experimental animals</b>	<b>Yes (indicate where provided:section/paragraph)</b>	<b>n/a</b>
<b>Laboratory animals:</b> Provide species, strain, sex, age, genetic modification status. Provide accession number in repository <b>OR</b> supplier name, catalog number, clone number, <b>OR</b> RRID	N. We have no <b>Laboratory animals</b> .	
<b>Animal observed in or captured from the field:</b> Provide species, sex and age where possible	N. We have no <b>Laboratory animals</b> .	
<b>Model organisms:</b> Provide Accession number in repository (where relevant) <b>OR</b> RRID	N. We have no <b>Model organisms</b> .	
<b>Plants and microbes</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
<b>Plants:</b> provide species and strain, unique accession number if available, and source (including location for collected wild specimens)	N. We have no <b>Plants</b> .	
<b>Microbes:</b> provide species and strain, unique accession number if available, and source	N. We have no <b>Microbes</b> .	
<b>Human research participants</b>	<b>Yes (indicate where provided:section/paragraph)</b>	<b>n/a</b>
Identify authority granting ethics approval(IRB or equivalent committee(s), provide reference number for approval.	N. We have no <b>Human research participants</b> .	
Provide statement confirming informed consent obtained from study participants.	N. We have no <b>Human research participants</b> .	
Report on age and sex for all study participants.	N. We have no <b>Human research participants</b> .	

**Design**

<b>Study protocol</b>	<b>Yes (indicate where provided:section/paragraph)</b>	<b>n/a</b>
For clinical trials, provide the trial registration number OR cite DOI in manuscript.	N. Our manuscript is not a clinical trial.	
<b>Laboratory protocol</b>	<b>Yes (indicate where provided:section/paragraph)</b>	<b>n/a</b>
Provide DOI or other citation details if detailed step-by-step protocols are available.	Yes. In paragraph “Materials and methods”	
<b>Experimental study design (statistics details)</b>	<b>Yes (indicate where provided:section/paragraph)</b>	<b>n/a</b>
State whether and how the following have been done, or if they were not carried out.		
Sample size determination	N. Our manuscript is not a clinical trial.	
Randomisation	N. Our manuscript is not a clinical trial.	
Blinding	N. Our manuscript is not a clinical trial.	
Inclusion/exclusion criteria	N. Our manuscript is not a clinical trial.	
<b>Sample definition and in-laboratory replication</b>	<b>Yes (indicate where provided:section/paragraph)</b>	<b>n/a</b>
State number of times the experiment was replicated in laboratory	In paragraph “Materials and methods” : all data were independently repeated three times	
Define whether data describe technical or biological replicates	In paragraph “Materials and methods” : data describe technical replicates.	
<b>Ethics</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
Studies involving human participants: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	N. Our study does not involve human participants.	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	N. Our study does not involve experimental animals.	
Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why.	N. Our study does not involve specimen and field samples.	
<b>Dual Use Research of Concern (DURC)</b>	<b>Yes (indicate where provided:section/paragraph)</b>	<b>n/a</b>
If study is subject to dual use research of concern, state the authority granting approval and reference number for the regulatory approval	N. Our study does not subject to dual use research of concern.	

## Analysis

<b>Attrition</b>	<b>Yes (indicate where provided:section/paragraph)</b>	<b>n/a</b>
State if sample or data point from the analysis is excluded, and whether the criteria for exclusion were determined and specified in advance.	N. No data point from the analysis is excluded	
<b>Statistics</b>	<b>Yes (indicate where provided:section/paragraph)</b>	<b>n/a</b>
Describe statistical tests used and justify choice of tests.	In paragraph “Materials and methods” : statistical analysis.	
<b>Data Availability</b>	<b>Yes (indicate where provided:section/paragraph)</b>	<b>n/a</b>
State whether newly created datasets are available, including protocols for access or restriction on access.	N. We have no newly created datasets.	
If data are publicly available, provide accession number in repository or DOI or URL.	N. Our data are not publicly available.	
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	N. Our data are not publicly available.	
<b>Code Availability</b>	<b>Yes (indicate where provided:section/paragraph)</b>	<b>n/a</b>
For all newly generated code and software essential for replicating the main findings of the study:		
State whether the code or software is available.	N. We have no code or software.	
If code is publicly available, provide accession number in repository, or DOI or URL.	N. We have no code or software.	

## Reporting

<b>Adherence to community standards</b>	<b>Yes (indicate where provided: section/paragraph)</b>	<b>n/a</b>
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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