

## **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:</b>	<b>n/a</b>
For commercial reagents, provide supplier name, catalogue number and RRID, if available.	N/A	No antibodies were used in this clinical trial.
<b>Cell materials</b>	<b>Yes (indicate where provided:</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	N/A	No cell materials were used in this clinical trial.
<b>Primary cultures:</b> Provide species, strain, sex of origin, genetic modification status.	N/A	No cell materials were used in this clinical trial.
<b>Experimental animals</b>	<b>Yes (indicate where provided:</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/A	No experimental animals were used in this clinical trial.
<b>Animal observed in or captured from the field:</b> Provide species, sex and age where possible	N/A	No experimental animals were used in this clinical trial.
<b>Model organisms:</b> Provide Accession number in repository (where relevant) <b>OR</b> RRID	N/A	No experimental animals were used in this clinical trial.
<b>Plants and microbes</b>	<b>Yes (indicate where provided:</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/A	No plants and microbes were used in this clinical trial.
<b>Microbes:</b> provide species and strain, unique accession number if available, and source	N/A	No plants and microbes were used in this clinical trial.
<b>Human research participants</b>	<b>Yes (indicate where provided:</b>	<b>n/a</b>
Identify authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	Methods/Para 1 Page 4/line 12-22	The study was approved by the Institutional Review Board of China-Japan Union Hospital of Jilin University (Changchun City, China; grant no. 20181203)
Provide statement confirming informed consent obtained from study participants.	Methods/Para 1 Page 4/line 12-22	
Report on age and sex for all study participants.	Results/Para 1 Page 9/line 6-13	

**Design**

<b>Study protocol</b>	<b>Yes (indicate where provided:</b>	<b>n/a</b>
For clinical trials, provide the trial registration number <b>OR</b> cite DOI in manuscript.	Methods/Para1 Page4/line 12-22	The study was approved by the Institutional Review Board of China-Japan Union Hospital of Jilin University (Changchun City, China; grant no. 20181203)

<b>Laboratory protocol</b>	<b>Yes (indicate where provided:</b>	<b>n/a</b>
Provide DOI or other citation details if detailed step-by-step protocols are available.	N/A	None citation about detailed step-by-step protocols.

<b>Experimental study design (statistics details)</b>	<b>Yes (indicate where provided:</b>	<b>n/a</b>
State whether and how the following have been done, <b>or</b> if they were not carried out.	Methods/Para 1-10	
Sample size determination	Methods/Para 1 Page 4/line 12-22	
Randomisation	N/A	According to the experimental design, no grouping is required for this clinical trial.
Blinding	N/A	According to the experimental design, no grouping is required for this clinical trial.
Inclusion/exclusion criteria	Methods/Para 2-3 Page 4-5/line 25 & 1-18	

<b>Sample definition and in-laboratory replication</b>	<b>Yes (indicate where provided:</b>	<b>n/a</b>
State number of times the experiment was replicated in laboratory	N/A	This study is not laboratory experiment.
Define whether data describe technical or biological replicates	N/A	This clinical trial does not involve this item.

<b>Ethics</b>	<b>Yes (indicate where provided:</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.	Methods/Para 1 Page 4/line 12-22	The study was approved by the Institutional Review Board of China-Japan Union Hospital of Jilin University (Changchun City, China; grant no. 20181203)
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	N/A	This study doesn't 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/A	This study doesn't involve specimen and field samples.
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<b>Dual Use Research of Concern (DURC)</b>	<b>Yes (indicate where provided:</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/A	This study doesn't involve DURC.

**Analysis**

<b>Attrition</b>	<b>Yes (indicate where provided:</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.	Methods/Para 3 Page 4-5/line 25& 1-18 Results/Para 1 Page 9/line 6-13	
<b>Statistics</b>	<b>Yes (indicate where provided:</b>	<b>n/a</b>
Describe statistical tests used and justify choice of tests.	Methods/Para 8-10 Page 8-9/line 3-25 &1-3	
<b>Data Availability</b>	<b>Yes (indicate where provided:</b>	<b>n/a</b>
State whether newly created datasets are available, including protocols for access or restriction on access.	N/A	There's no newly created datasets
If data are publicly available, provide accession number in repository or DOI or URL.	N/A	The data is not publicly available.
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	N/A	Publicly available data is not reused in the analysis.
<b>Code Availability</b>	<b>Yes (indicate where provided:</b>	<b>n/a</b>
For all newly generated code and software essential for replicating the main findings of the study:	Methods/Para 8-10 Page 8-9/line 3-25 &1-3	
State whether the code or software is available.	Methods/Para 10 Page 8-9/line 18-25 &1-3	
If code is publicly available, provide accession number in repository, or DOI or URL.	N/A	This study does not involve any codes.

**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.	Introduction/Para 4 Page 4/line 8-9 Footnote/Para 2 Page 17/line 23	
State if relevant guidelines (eg., ICMJE, MIBBI, ARRIVE) have been followed, and whether a checklist (eg., CONSORT, PRISMA, ARRIVE) is provided with the manuscript.	Footnote/Para 1-2 Page 17/line 21-23 ICMJE guidelines were followed, as the journal follows ICMJE recommendations for publication.	

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