# 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.). 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. | In the present study, no antibodies are used. | x |

| 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 | In the present study no cell lines are used. | x |
| **Primary cultures:** Provide species, strain, sex of origin, genetic modification status. | In the present study no primary cultures are used. | x |

| 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 | In the present study no laboratory animals are used. | x |
| **Animal observed in or captured from the field:** Provide species, sex and age where possible | In the present study no animal are observed in or captured from the field. | x |
| **Model organisms:** Provide Accession number in repository (where relevant) **OR** RRID | In the present study no model organisms are used. | x |

| 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) | In the present study no plants are used. | x |
| **Microbes:** provide species and strain, unique accession number if available, and source | In the present study no microbes are used. | x |

| 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. | Page 3, Method, line 100-102 | |
| Provide statement confirming informed consent obtained from study participants. | Page 4, Method, line 105 | |
| Report on age and sex for all study participants. | Page 6, Result line 153-154 | |

## 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 present study was an observational study. | x |

| Laboratory protocol | Yes (indicate where provided: section/paragraph) | n/a |
|---|---|---|
| Provide DOI or other citation details if detailed step-by-step protocols are available. | Our present study was an observational study. | x |

| 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. | Our present study was an observational study. | x |
| Sample size determination | Our present study was an observational study. | x |
| Randomisation | Our present study was an observational study. | x |
| Blinding | Our present study was an observational study. | x |
| Inclusion/exclusion criteria | Page4/5 Method, line 103-109 | |

| Sample definition and in-laboratory replication | Yes (indicate where provided: section/paragraph) | n/a |
|---|---|---|
| State number of times the experiment was replicated in laboratory | Our present study was an observational study. | x |
| Define whether data describe technical or biological replicates | Our present study was an observational study. | x |

| 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. | Page 3, Method, line 100-102 | |
| Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval. | Out present study did not involve experimental animals. | x |
| Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why. | Our present study did not involve specimen or field samples. | x |

| 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 | Our study is not a subject to dual use. | x |

## 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. | No data was excluded. | x |

| Statistics | Yes (indicate where provided: section/paragraph) | n/a |
|---|---|---|
| Describe statistical tests used and justify choice of tests. | Page 6, Method, line 134-149 | |

| 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. | There are no newly created datasets. | x |
| If data are publicly available, provide accession number in repository or DOI or URL. | The data are not publicly available. | x |
| If publicly available data are reused, provide accession number in repository or DOI or URL, where possible. | There are no publicly available data used. | x |

| 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: | The present study do not include any codes or software. | x |
| State whether the code or software is available. | The present study do not include any codes or | x |
| If code is publicly available, provide accession number in repository, or DOI or URL. | The present study do not include any codes or software. | x |

## 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. | | x |
| 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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