# 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. | | n/a Antibodies were not used in the study |

| 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 | Cell line indicated in Cell cultures and treatments/ paragraph 1 | |
| **Primary cultures:** Provide species, strain, sex of origin, genetic modification status. | | n/a Primary cultures were not used in the study |

| 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 | | n/a Laboratory animals were not used in the study |
| **Animal observed in or captured from the field:** Provide species, sex and age where possible | | n/a Animals were not used in the study |
| **Model organisms:** Provide Accession number in repository (where relevant) **OR** RRID | | n/a Model organisms were not used in the study |

| 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) | | n/a Plants were not used in the study |
| **Microbes:** provide species and strain, unique accession number if available, and source | | n/a Microbes were not used in the study |

| 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. | | n/a<br>There is no human research in the study |
| Provide statement confirming informed consent obtained from study participants. | | n/a<br>There is no human research in the study |
| Report on age and sex for all study participants. | | n/a<br>There is no human research in the study |

## Design

| Study protocol | Yes (indicate where provided: section/paragraph) | n/a |
|---|---|---|
| For clinical trials, provide the trial registration number **OR** cite DOI in manuscript. | Yes, indicated in introduction/paragraph 8 | |

| Laboratory protocol | Yes (indicate where provided: section/paragraph) | n/a |
|---|---|---|
| Provide DOI or other citation details if detailed step-by-step protocols are available. | Yes, indicated in Methods/paragraph 1-5 | |

| 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. | | n/a |
| Sample size determination | | n/a |
| Randomisation | | n/a |
| Blinding | | n/a |
| Inclusion/exclusion criteria | | 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 | Yes, indicated in Statistical analysis/paragraph 1 | |
| Define whether data describe technical or biological replicates | Yes, indicated in Statistical analysis/paragraph 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. | | n/a There is no human research in the study |
| Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval. | | n/a There is no experimental animals in the study |
| 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 there is no specimen and field samples in the study |

| 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 | | 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. | | n/a No sample or data point from the analysis is exclude |

| Statistics | Yes (indicate where provided: section/paragraph) | n/a |
|---|---|---|
| Describe statistical tests used and justify choice of tests. | Yes, indicated in Statistical analysis/paragraph 1 | |

| 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. | | n/a |
| If data are publicly available, provide accession number in repository or DOI or URL. | | n/a |
| If publicly available data are reused, provide accession number in repository or DOI or URL, where possible. | | n/a |

| 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: | | n/a |
| State whether the code or software is available. | | n/a |
| If code is publicly available, provide accession number in repository, or DOI or URL. | | n/a |

## 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. | | n/a |
| 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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