# 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: | n/a |
|---|---|---|
| For commercial reagents, provide supplier name, catalogue number and RRID, if available. | Yes (method section/paragraph 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11) | |

| Cell materials | Yes (indicate where provided: | n/a |
|---|---|---|
| **Cell lines:** Provide species information, strain. Provide accession number in repository **OR** supplier name, catalog number, clone number, **OR** RRID | Yes (method section/paragraph 1) | |
| **Primary cultures:** Provide species, strain, sex of origin, genetic modification status. | | n/a. The cell lines used in this study were purchased and purified human cell lines |

| Experimental animals | Yes (indicate where provided: | 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. This article does not involve animal experiment. |
| **Animal observed in or captured from the field:** Provide species, sex and age where possible | | n/a. This article does not involve animal experiment. |
| **Model organisms:** Provide Accession number in repository (where relevant) **OR** RRID | | n/a. This article does not involve model organisms experiment. |

| Plants and microbes | Yes (indicate where provided: | n/a |
|---|---|---|
| **Plants:** provide species and strain, unique accession number if available, and source (including location for collected wild specimens) | | n/a. This article does not involve plant experiment. |
| **Microbes:** provide species and strain, unique accession number if available, and source | | n/a. This article does not involve microbe experiment. |

| Human research participants | Yes (indicate where provided: | n/a |
|---|---|---|
| Identify authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval. | | n/a. This article does not involve human research participants. |
| Provide statement confirming informed consent obtained from study participants. | | n/a. This article does not involve human research participants. |
| Report on age and sex for all study participants. | | n/a. This article does not involve human research participants. |

## Design

| Study protocol | Yes (indicate where provided: | n/a |
|---|---|---|
| For clinical trials, provide the trial registration number **OR** cite DOI in manuscript. | | n/a. This article does not involve clinical trials. |

| Laboratory protocol | Yes (indicate where provided: | n/a |
|---|---|---|
| Provide DOI or other citation details if detailed step-by-step protocols are available. | | n/a. This article does not have laboratory protocol. |

| Experimental study design (statistics details) | Yes (indicate where provided: | n/a |
|---|---|---|
| State whether and how the following have been done**, or** if they were not carried out. | | n/a. This work was not carried out in this paper. |
| Sample size determination | | n/a. This work was not carried out |
| Randomisation | | n/a. This work was not carried out |
| Blinding | | n/a. This work was not carried out |
| Inclusion/exclusion criteria | | n/a. This work was not carried out |

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

| Ethics | Yes (indicate where provided: | 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. This paper 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/a. This paper does not involve animal experiment. |
| 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 paper does not involve specimen and field sample studies. |

| Dual Use Research of Concern (DURC) | Yes (indicate where provided: | 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. This study is not subjected to dual use research of concern. |

## Analysis

| Attrition | Yes (indicate where provided: | 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. There is not attrition in this study. |

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

| Data Availability | Yes (indicate where provided: | 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: | 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. | Yes. | |
| 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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