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: page	n/a
For commercial reagents, provide supplier name, catalogue number and RRID, if available.		N/A, This a bioinformatic

Cell materials	Yes (indicate where provided: page	n/a
Cell lines: Provide species information, strain. Provide accession number in repository **OR** supplier name, catalog number, clone number, **OR** RRID		N/A, This a bioinformatic study. It didn't use cell lines.
Primary cultures: Provide species, strain, sex of origin, genetic modification status.		N/A, This a bioinformatic

Experimental animals	Yes (indicate where provided: page	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 a bioinformatic study. It didn't use laboratory animals.
Animal observed in or captured from the field: Provide species, sex and age where possible		N/A, This a bioinformatic study. It didn't use
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID		N/A, This a bioinformatic

Plants and microbes	Yes (indicate where provided: page	n/a
Plants: provide species and strain, unique accession number if available, and source (including location for collected wild specimens)		N/A, This a bioinformatic study. It didn't use
Microbes: provide species and strain, unique accession number if available, and source		N/A, This a bioinformatic

Human research participants	Yes (indicate where provided: page	n/a
Identify authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	Page 20, Line 421-425, Footnote	
Provide statement confirming informed consent obtained from study participants.		N/A, This a bioinformatic
Report on age and sex for all study participants.		N/A, This a

Design

Study protocol	Yes (indicate where provided: page	n/a
For clinical trials, provide the trial registration number **OR** cite DOI in manuscript.		N/A, This a bioinformatic study.

Laboratory protocol	Yes (indicate where provided: page	n/a
Provide DOI or other citation details if detailed step-by-step protocols are available.		N/A, This a bioinformatic study.

Experimental study design (statistics details)	Yes (indicate where provided: page	n/a
State whether and how the following have been done**, or** if they were not carried out.		
Sample size determination	Page 6, Line 109-114, Method	
Randomisation		N/A, This a
Blinding		N/A, This a
Inclusion/exclusion criteria	Page 7, Line 124-131, Method	

Sample definition and in-laboratory replication	Yes (indicate where provided: page	n/a
State number of times the experiment was replicated in laboratory		N/A, This a bioinformatic study
Define whether data describe technical or biological replicates		N/A, This a bioinformatic study

Ethics	Yes (indicate where provided: page	n/a
Studies involving human participants: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	Page 20, Line 421-425, Footnote	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.		N/A, This a bioinformatic study. The data was from public databases.
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 a bioinformatic study. The data was from public databases.

Dual Use Research of Concern (DURC)	Yes (indicate where provided: page	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 a bioinformatic study.

Analysis

Attrition	Yes (indicate where provided: page	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.	Page 7, Line 124-131, Method	

Statistics	Yes (indicate where provided: page	n/a
Describe statistical tests used and justify choice of tests.	Page 27 – 29, Line 558-611, Figure Legend	

Data Availability	Yes (indicate where provided: page	n/a
State whether newly created datasets are available, including protocols for access or restriction on access.		N/A, This a bioinformatic study. The data
If data are publicly available, provide accession number in repository or DOI or URL.	Page 6, Line 106-116, Method	
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	Page 6, Line 106-116, Method	

Code Availability	Yes (indicate where provided: page	n/a
For all newly generated code and software essential for replicating the main findings of the study:		
State whether the code or software is available.	Page 7, Line 122-123, Method	
If code is publicly available, provide accession number in repository, or DOI or URL.	Page 7, Line 122-123, Method	

Reporting

Adherence to community standards	Yes (indicate where provided: page no/section/legend)	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.		
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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