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	n/a
For commercial reagents, provide supplier name, catalogue number and RRID, if available.		N/A. The study did not involve lab experiments.

Cell materials	Yes	n/a
Cell lines: Provide species information, strain. Provide accession number in repository **OR** supplier name, catalog number, clone number, **OR** RRID		N/A. The study did not involve lab experiments.
Primary cultures: Provide species, strain, sex of origin, genetic modification status.		N/A. The study did not involve lab experiments.

Experimental animals	Yes	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. The study did not involve lab experiments.
Animal observed in or captured from the field: Provide species, sex and age where possible		N/A. The study did not involve lab experiments.
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID		N/A. The study did not involve lab experiments.

Plants and microbes	Yes	n/a
Plants: provide species and strain, unique accession number if available, and source (including location for collected wild specimens)		N/A. The study did not involve lab experiments.
Microbes: provide species and strain, unique accession number if available, and source		N/A. The study did not involve lab experiments.

Human research participants	Yes	n/a
Identify authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.		N/A. This research did not involve human subject trial. Instead, the data came exclusively from the Gene Expression Omnibus.
Provide statement confirming informed consent obtained from study participants.		N/A. This research did not involve human subject trial. Instead, the data came exclusively from the Gene Expression Omnibus.
Report on age and sex for all study participants.		N/A. This research did not involve human subject trial. Instead, the data came exclusively from the Gene Expression Omnibus.

Design

Study protocol	Yes	n/a
For clinical trials, provide the trial registration number **OR** cite DOI in manuscript.		N/A. This research is not a clinical trial. Instead, the data came exclusively from the Gene Expression Omnibus.

Laboratory protocol	Yes	n/a
Provide DOI or other citation details if detailed step-by-step protocols are available.		N/A. This research did not involve lab experiment.

Experimental study design (statistics details)	Yes	n/a
State whether and how the following have been done**, or** if they were not carried out.		N/A. This research is not a clinical trial. Instead, the data came exclusively from the Gene Expression Omnibus.
Sample size determination		N/A. This research is not a clinical trial. Instead, the data came exclusively from the Gene Expression Omnibus.
Randomisation		N/A. This research is not a clinical trial. Instead, the data came exclusively from the Gene Expression Omnibus.
Blinding		N/A. This research is not a clinical trial. Instead, the data came exclusively from the Gene Expression Omnibus.
Inclusion/exclusion criteria		N/A. This research is not a clinical trial. Instead, the data came exclusively from the Gene Expression Omnibus.

Sample definition and in-laboratory replication	Yes	n/a
State number of times the experiment was replicated in laboratory		N/A. This research is not a clinical trial. Instead, the data came exclusively from the Gene Expression Omnibus.
Define whether data describe technical or biological replicates		N/A. This research is not a clinical trial. Instead, the data came exclusively from the Gene Expression Omnibus.

Ethics	Yes	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 research is not a clinical trial. Instead, the data came exclusively from the Gene Expression Omnibus.
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.		N/A. This research did not involve experimental animal.
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 research did not involve lab experiment.

Dual Use Research of Concern (DURC)	Yes	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 research did not involve dual use research.

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.	All data in four GSE datasets were used. There were no exclusion. Page 6, line 132-134.	

Statistics	Yes (indicate where provided:	n/a
Describe statistical tests used and justify choice of tests.	Yes. Methods section paragraph 1-2	

Data Availability	Yes (indicate where provided:	n/a
State whether newly created datasets are available, including protocols for access or restriction on access.	Yes. Methods section/ Data acquisition, paragraph 1	
If data are publicly available, provide accession number in repository or DOI or URL.	Yes. Methods section/ Data acquisition, paragraph 1	
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	Yes. Methods section/ Data acquisition, paragraph 1	

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. This study did not involve such code or software.
State whether the code or software is available.		N/A. This study did not involve such code or software.
If code is publicly available, provide accession number in repository, or DOI or URL.		N/A. This study did not involve such code or software.

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.		
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 .	

Article information: https://dx.doi.org/10.21037/atm-21-4974