Materials Design Analysis Reporting (MDAR)
Checklist for Authors

The MDAR framework establishesa 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.	Methods/passage 1,2,4,5,7,8,9	

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	Methods/passage 1	
Primary cultures: Provide species, strain, sex of origin, genetic modification status.	Methods/passage 1	

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	No animal experiments were involved	N/A
Animal observed in or captured from the field: Provide species, sex and age where	No animal experiments were involved	N/A
Model organisms: Provide Accession number in repository (where relevant) **OR**	No animal experiments were involved	N/A

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	Methods/passage 2	
Microbes: provide species and strain, unique accession number if available, and	Methods/passage 2	

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.	Methods/passage 11	
Provide statement confirming informed consent obtained from study participants.	Methods/passage 11	
Report on age and sex for all study participants.	Methods/passage 11	

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 study was not a clinical trial and no registration number and DOI were available.	N/A

Laboratory protocol	Yes (indicate where provided:section/paragraph)	n/a
Provide DOI or other citation details if detailed step-by-step protocols are available.	Methods/passage 1,2,4,5,7,8,9,10,11.	

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.	Details as below	
Sample size determination	Retrospective observational small sample study	N/A
Randomisation	Retrospective observational small sample study	N/A
Blinding	Retrospective observational small sample study	N/A
Inclusion/exclusion criteria	Methods/passage 10	

Sample definition and in-laboratory replication	Yes (indicate where provided:section/paragraph)	n/a
State number of times the experiment was replicated in laboratory	Methods/passage 4	
Define whether data describe technical or biological replicates	Methods/passage1,2,4,5,7,8,9,10,11.	

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.	Methods/passage 11	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	No animal experiments were involved	N/A
Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why.	Not involved	N/A

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	Not involved	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.	Methods/passage 10	

Statistics	Yes (indicate where provided:section/paragraph)	n/a
Describestatistical tests used and justify choice of tests.	Methods/passage 12	

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.	All data are available on request from the authors by email-zhangjianwen66@126.com.	N/A
If data are publicly available, provide accession number in repository or DOI or URL.	We are willing to provide relevant research data if necessary.	N/A
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	The data were not reused	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:	No new code or software was generated	N/A
State whether the code or software is available.	No new code or software was generated	N/A
If code is publicly available, provide accession number in repository, or DOI or URL.	No new code or software was generated	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.		
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-22-6218