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.	In the methods section, western blotting part (Page 7 line 222-225; page 8 line 226-233).	

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	In the methods section, cell culture part (Page 6line 170-178).	
Primary cultures: Provide species, strain, sex of origin, genetic modification status.	The cells used in our study were not primary cultures.	

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	My study did not involve laboratory animals.	**n/a**
Animal observed in or captured from the field: Provide species, sex and age where possible	My study did not involve laboratory animals.	**n/a**
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID	My study did not involve laboratory animals.	

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)	My study did not involve plants.	**n/a**
Microbes:provide species and strain, unique accession number if available, and source	My study did not involve microbes.	**n/a**

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.	In the methods section, patients and specimens part (Page 6 line 171-174).	
Provide statement confirming informed consent obtained from study participants.	In the methods section, patients and specimens part (Page 6 line 172-173).	
Report on age and sex for all study participants.	In the table 2 (Page 29 and 30).	

Design

Studyprotocol	Yes (indicate where provided:section/paragraph)	n/a
For clinical trials, provide the trial registration number **OR**cite DOI in manuscript.	Our study did not involve clinical trials.	**n/a**

Laboratoryprotocol	Yes (indicate where provided:section/paragraph)	n/a
Provide DOI or other citation details if detailed step-by-step protocols are available.	In the methods section (Page 6 to page 9).	

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.		
Sample size determination	In the methods section, patients and specimens (Page 5, line 160).	
Randomisation	Our study did not involve clinical trials.	**n/a**
Blinding	Our study did not involve clinical trials.	**n/a**
Inclusion/exclusion criteria	In the methods section, patients and specimens (Page 6 line 166-171).	

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

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.	In the methods section, patients and specimens (Page 6 line 171-174).	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	Our study did not involve laboratory animals.	**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.	In the methods section, patients and specimens (Page line 171-175).	

Dual Use Research of Concern (DURC)	Yes (indicate where provided:section/paragraph)	n/a
If study is subject to dual use research ofconcern, statethe authority granting approval and reference number for the regulatory approval	Our study did not involve dual use research.	**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.	In the methods section, patients and specimens (Page 6 line 166-171).	

Statistics	Yes (indicate where provided:section/paragraph)	n/a
Describestatistical tests used and justify choice of tests.	In the methods section, Statistical analysis part(Page 9 line 278-281).	

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.	In the Data-Sharing-Statement.	
If data are publicly available, provide accession number in repository or DOI or URL.	In the footnote section (Page 18 line 573-578).	
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	In the methods section (Page 9 line 263-274).	

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:		
State whether the code or software is available.	In the methods section (Page 9 line 263-274).	
If code is publicly available, provide accession number in repository, or DOI or URL.	Sorry, now this content Is not convenient to be supplied.	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.	

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