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: section/paragraph)	n/a
For commercial reagents, provide supplier name, catalogue number and RRID, if available.	In the current study, no commercial reagents were used.	n/a

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 current study, no cell lines were used.	n/a
Primary cultures: Provide species, strain, sex of origin, genetic modification status.	In the current study, no primary cultured cell were used.	n/a

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	In the current study, no laboratory animals were used.	n/a
Animal observed in or captured from the field: Provide species, sex and age where possible	No experimental animals were used in the current study.	n/a
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID	There was no animal experiments in the current study.	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 specimens)	No plants were used in the current study.	n/a
Microbes: provide species and strain, unique accession number if available, and source	No microbes were used in the current study.	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.	The first paragraph in Method section and the Ethical statement in the Footnotes.	
Provide statement confirming informed consent obtained from study participants.	The first paragraph in Method section.	
Report on age and sex for all study participants.	We only collected the non-recycle blood of the enrolled patients for blood-soaked sponges' model. So we did not report on age and sex for the participants.	n/a

Design

Study protocol	Yes (indicate where provided: section/paragraph)	n/a
For clinical trials, provide the trial registration number **OR** cite DOI in manuscript.	The study is not a clinical trial.	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.	The study is not a clinical trial. Meanwhile there were not any interventions in the study. So the study is not registered on line.	n/a

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	Our study is not RCT or a comparative study, so that the sample size is not calculated.	n/a
Randomisation	Our study is not RCT, so that there is no randomization.	n/a
Blinding	Our study is not RCT, so that there is no blinding here.	n/a
Inclusion/exclusion criteria	The second paragraph in the Method part.	

Sample definition and in-laboratory replication	Yes (indicate where provided: section/paragraph)	n/a
State number of times the experiment was replicated in laboratory	We only did arterial gas analysis for the Hb concentration of the non-recycle blood once per patient.	n/a
Define whether data describe technical or biological replicates	We tested one sample of non-recycle blood once by arterial gas analysis once per patient so there is no	n/a

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.	The first paragraph in Method section and the Ethical statement in the Footnotes.	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	The study did not involve experimental 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.	The first paragraph in Method section and the Ethical statement in the Footnotes.	

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	The study is approved for only one use.	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.	The criteria for exclusion in advance is in the second paragraph in Method section.	

Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of tests.	The description for statistical tests were in the last paragraph in the Method section.	

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.	Datasets in the current study were newly created by us. We did not intend to make the data available for every one. We may balance the potential benefits and risks for each request and then provide the data that could be shared.	n/a
If data are publicly available, provide accession number in repository or DOI or URL.	The datasets used in the current study were not publicly available.	n/a
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	Datasets in the current study were newly created by us. And the datasets used in the current study were not publicly available.	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:		
State whether the code or software is available.	We are applying for patent about using Feature Engineering (No. 202010324328.5) and DenseNet methods for EBL and EHL. After the notification to Grant Patent Right, we will upload the core code on Github as soon as possible. If editors or reviewers need the code for inspection, please contact us.	n/a
If code is publicly available, provide accession number in repository, or DOI or URL.	We are applying for patent about using Feature Engineering (No. 202010324328.5) and DenseNet methods for EBL and EHL. After the notification to Grant Patent Right, we will upload the core code on Github as soon as possible. If editors or reviewers need the code for inspection, please contact us.	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.	The authorship of this manuscript is followed ICMJE guideline and a MDAR checklist is provided with the manuscript.	

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