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.		n/a Reason: Our study is a clinical study.

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		n/a Reason: Our study is a clinical study.
Primary cultures: Provide species, strain, sex of origin, genetic modification status.		n/a Reason: Our study is a clinical study.

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		n/a Reason: Our study is a clinical study.
Animal observed in or captured from the field: Provide species, sex and age where possible		n/a Reason: Our study is a clinical study.
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID		n/a Reason: Our study is a clinical study.

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)		n/a Reason: Our study is a clinical study.
Microbes: provide species and strain, unique accession number if available, and source		n/a Reason: Our study is a clinical study.

Human research participants	Yes (indicate where provided: section/paragraph)	n/a

Identify authority granting ethics approval (IRB or equivalent committee(s),	Yes (see the "Ethical Statement" section of the Footnote).	
Provide statement confirming informed consent obtained from study participants.		n/a Reason： Study participants have been de-identified by TCGA and SEER previously. Therefore, no informed consent was required for the study.
Report on age and sex for all		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.		n/a Reason： Our study is not a clinical trial.

Laboratory protocol	**Yes (indicate where provided: section/paragraph)**	**n/a**
Provide DOI or other citation details if detailed step-by-step protocols are available.		n/a Reason: Our study is a clinical study.

Experimental study design	**Yes (indicate where provided: section/paragraph)**	**n/a**
State whether and how the following have been done**, or** if they were not carried out.		n/a Reason: Our study is a clinical study.
Sample size determination		n/a
Randomisation		n/a
Blinding		n/a
Inclusion/exclusion criteria		n/a

Sample definition and in-	**Yes (indicate where provided: section/paragraph)**	**n/a**
State number of times the experiment was replicated in laboratory		n/a Reason: Our study is a clinical study.
Define whether data describe technical or biological replicates		n/a Reason: Our study is a clinical study.

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.	Yes (see the "Ethical Statement" section of the Footnote).	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent		n/a Reason: Our study is a clinical study.
Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving		n/a Reason: Our study is a clinical study.

Dual Use Research of Concern	**Yes (indicate where provided:**	**n/a**

If study is subject to dual use research of concern, state the authority granting approval and		n/a Reason: Our study is not subject to dual use research.

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.		n/a

Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of tests.	Yes (see Methods3: Statistical analysis).	

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.		n/a
If data are publicly available, provide accession number in repository or DOI or URL.		n/a
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.		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:	Yes (see Methods3: Statistical analysis).	
State whether the code or software is available.	Yes (see Methods3: Statistical analysis).	
If code is publicly available, provide accession number in repository, or DOI or URL.	Yes (see Methods3: Statistical analysis).	

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 article follows the ICMJE recommendations. No other checklist is provided.	

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