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.	β -actin (1:1,000, #3700, CST), PD-L1 (1:1,000, #13684, CST), E-cadherin (1:1,000, #3195, CST), phospho-β-catenin (1:1,000, #5651, CST), vimentin (1:1,000, #5741, CST), CCND1 (1:1,000, ab134175, Abcam), CDK1 (1:50,000, ab133327, Abcam), Cdk4 (1:1,000, ab108357, Abcam) (methods/page8)	

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	MDA-MB-231 cells were purchased from the Cell Bank of FuHeng Biology (China), and HBL-100 cells were obtained as a gift from The Clinical Pharmacy Laboratory of The First Affiliated Hospital of Zhengzhou University. (methods/page4)	
Primary cultures: Provide species, strain, sex of origin, genetic modification status.	This experiment is not covered in the subject.	**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	This experiment is not covered in the subject.	**N/A**
Animal observed in or captured from the field: Provide species, sex and age where possible	This experiment is not covered in the subject.	**N/A**
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID	This experiment is not covered in the subject.	**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)	This experiment is not covered in the subject.	**N/A**
Microbes: provide species and strain, unique accession number if available, and source	This experiment is not covered in the subject.	**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 ethics board of the First Affiliated Hospital of Zhengzhou University (NO. 2020-KY-449). (Footnote/page17)	
Provide statement confirming informed consent obtained from study participants.	The corresponding author can be contacted for further information.	**N/A**
Report on age and sex for all study participants.	The corresponding author can be contacted for further information.	**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.	This experiment is not covered in the subject.	

Laboratory protocol	Yes (indicate where provided: section/paragraph)	n/a
Provide DOI or other citation details if detailed step-by-step protocols are available.	This experiment is not covered in the subject.	**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	This experiment is not covered in the subject.	**N/A**
Randomisation	This experiment is not covered in the subject.	**N/A**
Blinding	This experiment is not covered in the subject.	**N/A**
Inclusion/exclusion criteria	This experiment is not covered in the subject.	**N/A**

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 triplicate(methods/page8-9)	
Define whether data describe technical or biological replicates	Both technical and biological copies were made three times. (methods/page8-9).	

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 ethics board of the First Affiliated Hospital of Zhengzhou University (NO. 2020-KY-449). (Footnote/page17)	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	This experiment is not covered in the subject.	**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.	This experiment is not covered in the subject.	**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	This experiment is not covered in the subject.	**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.	This experiment is not covered in the subject.	N/A

Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of tests.	Statistical analysis was performed using GraphPad Prism 8.0 software. Experiments were performed in triplicate and repeated at least twice. Two-tailed Student's t test was used to evaluate differences between two groups. Bars indicate the mean ± standard deviation (SD) of three independent replicates. A P value <0.05 was considered statistically significant. (methods/page8-9).	

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.	This experiment is not covered in the subject.	N/A
If data are publicly available, provide accession number in repository or DOI or URL.	This experiment is not covered in the subject.	N/A
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	This experiment is not covered in the subject.	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.	This experiment is not covered in the subject.	N/A
If code is publicly available, provide accession number in repository, or DOI or URL.	This experiment is not covered in the subject.	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 guidelines for publication.	

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