

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](https://doi.org/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: page 4 RACK1 (Proteintech, USA, 1:1000), USP41 (Invitrogen, USA, 1:1000), β -actin (Servicebio, China, 1:1000), goat anti-mouse IgG (1:5,000, Sigma-Aldrich, St. Louis, MO, USA) and GAPDH (Proteintech, USA, 1:1000)	
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	Methods : page 4 Human BC cell lines (MDA-MB-231, MCF-7) were obtained from American Type Culture Collection (ATCC; Rockville, MD, USA).	
Primary cultures: Provide species, strain, sex of origin, genetic modification status.	Methods : page 4 The MDA-MB-231 cells were cultured in Dulbecco's modified Eagle medium (DMEM) supplemented with 10% fetal bovine serum (FBS). The MCF-7 cells were grown in DMEM supplemented with 10% FBS. All the cells were cultured in a humidified atmosphere with 5% CO ₂ at 37 °C.	
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	Our study involved no animal experiments.	n/a
Animal observed in or captured from the field: Provide species, sex and age where possible	Our study involved no animal experiments.	n/a
Model organisms: Provide Accession number in repository (where relevant) OR RRID	Our study involved no animal experiments.	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)	Not applicable	n/a
Microbes: provide species and strain, unique accession number if available, and source	Not applicable	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.	Methods: page 4 The study was approved by an independent ethics committee of Fourth Military Medical University (KY20213157-1).	
Provide statement confirming informed consent obtained from study participants.	Methods: page 4 All participants were asked to provide written informed consent before enrollment.	
Report on age and sex for all study participants.	Methods: page 4 All participants were female aged 45.7 \pm 12.50 and received no therapy before sample collection.	

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 study was 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.	We have no laboratory protocol DOI	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.	This study was not a clinical trial	n/a
Sample size determination	This study was not a clinical trial	n/a
Randomisation	This study was not a clinical trial	n/a
Blinding	This study was not a clinical trial	n/a
Inclusion/exclusion criteria	This study was not a clinical trial	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	Methods: . All experiments were performed in triplicate dishes in 3 independent experiments.	
Define whether data describe technical or biological replicates	The data were presented as means \pm SD. Student's t-test was used for statistical analysis, unless otherwise indicated. GraphPad Prism 8 (GraphPad Software Inc., La Jolla, CA, USA) and SPSS 23.0 Software (IBM Inc., Armonk, NY, USA) were used for all statistical analyses. Statistically significant differences were indicated when $P < 0.05$.	
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: All participants were female aged 45.7 ± 12.50 and received no therapy before sample collection. The study was approved by an independent ethics committee of Fourth Military Medical University (KY20213157-1).	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	No experimental animals 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.	Methods: We obtained BC specimens and paired adjacent normal breast tissue specimens from 10 patients with primary BC. All participants were female aged 45.7 ± 12.50 and received no therapy before sample collection.	
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 study is not subject to dual use research of concern	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 is a cellular biological study and the data analysis was simple	n/a
Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of tests.	Methods: page 7 The data were presented as means \pm SD. Student's t-test was used for statistical analysis, unless otherwise indicated. GraphPad Prism 8 (GraphPad Software Inc., La Jolla, CA, USA) and SPSS 23.0 Software (IBM Inc., Armonk, NY, USA) were used for all statistical analyses. Statistically significant differences were indicated when $P < 0.05$.	
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.	We do not want to share our original data	n/a
If data are publicly available, provide accession number in repository or DOI or URL.	We used TCGA database (http://tcga-data.nci.nih.gov/tcga/) to investigate the expression of USP41 in BC.	
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	We used TCGA database (http://tcga-data.nci.nih.gov/tcga/) to investigate the expression of USP41 in BC.	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	n/a
State whether the code or software is available.	No new code	n/a
If code is publicly available, provide accession number in repository, or DOI or URL.	No new code	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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