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	n/a
For commercial reagents, provide supplier name, catalogue number and RRID, if available.		This experiment belongs to the category of pure biological information, and all information comes from free online resources.

Cell materials	Yes (indicate where	n/a
Cell lines: Provide species information, strain. Provide accession number in repository **OR** supplier name, catalog number, clone number, **OR** RRID		This experiment belongs to the category of pure biological information, and all information comes from free online resources.
Primary cultures: Provide species, strain, sex of origin, genetic modification status.		This experiment belongs to the category of pure biological information, and all information comes from free online resources.

Experimental animals	Yes (indicate where	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 belongs to the category of pure biological information, and all information comes from free online resources.
Animal observed in or captured from the field: Provide species, sex and age where possible		This experiment belongs to the category of pure biological information, and all information comes from free online resources.
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID		This experiment belongs to the category of pure biological information, and all information comes from free online resources.

Plants and microbes	Yes (indicate where	n/a
Plants: provide species and strain, unique accession number if available, and source (including location for collected wild specimens)		This experiment belongs to the category of pure biological information, and all information comes from free online resources.
Microbes: provide species and strain, unique accession number if available, and source		This experiment belongs to the category of pure biological information, and all information comes from free online resources.

Human research participants	Yes (indicate where	n/a
Identify authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.		This experiment belongs to the category of pure biological information, and all information comes from free online resources.
Provide statement confirming informed consent obtained from study participants.		This experiment belongs to the category of pure biological information, and all information comes from free online resources.
Report on age and sex for all study participants.		This experiment belongs to the category of pure biological information, and all information comes from free online resources.

Design

Study protocol	Yes (indicate where provided: section/paragraph)	n/a
For clinical trials, provide the trial registration number **OR** cite DOI in manuscript.	NCBI: txid9606	

Laboratory protocol	Yes (indicate where provided: section/paragraph)	n/a
Provide DOI or other citation details if detailed step-by-step protocols are available.	NCBI: txid9606	

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	Determined according to the grouping principle and the original sample size in the GSE71729 data set, see Table 1 for specific information.	
Randomisation	Random stratified sampling method and random block design were used, and the patients were divided into six groups according to different metastatic sites. Then each group set up blank control and negative control group according to the principle of random control, see Table 1 for details.	
Blinding	Grouping according to the semi-blind principle and random stratified sampling standards.	
Inclusion/exclusion criteria	Inclusion criteria: Divide into eight groups, including lymph node, liver, diaphragm, fat, lung, peritoneal metastatic groups, according to different metastatic sites in pancreatic cancer. Exclusion criteria: exclude colon or Abwall metastatic groups due to insufficient sample size.	

Sample definition and in-laboratory replication	Yes (indicate where provided: section/paragraph)	n/a
State number of times the experiment was replicated in laboratory	After no less than ten repeated experiments, the experimental results obtained are consistent.	
Define whether data describe technical or biological replicates	biological replicates	

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.		This experiment does not involve ethical issues, because all data comes from online free resources.
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.		This experiment does not involve ethical issues, because all data comes from online free resources
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 does not involve ethical issues, because all data comes from online free resources

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 does not involve DURC, because all data comes from online free resources

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 this experiment, the GSE71729 data set was rebuilt, only human samples were retained, and cell line samples in the original data set were excluded.	

Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of tests.	A variety of different statistical methods have been adopted 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.	All data involved in this experiment can be obtained online for free.	
If data are publicly available, provide accession number in repository or DOI or URL.	the detailed website is in References.	
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	the detailed website is in References.	

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 does not involve newly generated code and software, because all data comes
If code is publicly available, provide accession number in repository, or DOI or URL.		This experiment does not involve newly generated code and software, because all data comes

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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