NOTE: Please save this file locally before filling in the table, DO NOT work on the file within your internet browser as changes will not be saved. Adobe Acrobat Reader (available free here) is recommended for completion.

The ARRIVE guidelines 2.0: author checklist

The ARRIVE Essential 10

These items are the basic minimum to include in a manuscript. Without this information, readers and reviewers cannot assess the reliability of the findings.

Item		Recommendation	Section/line number, or reason for not reporting
Study design	1	For each experiment, provide brief details of study design including: a. The groups being compared, including control groups. If no control group has been used, the rationale should be stated. b. The experimental unit (e.g. a single animal, litter, or cage of animals).	In all of our experiments, experimental groups were compared with appropriate controls. Line: 211-214 and 225 section: Subcutaneous tumor growth and serial transplantation studies. Groups of mice were used in control and experimental groups. Animal experiments were detailed in the section "Subcutaneous tumor growth and serial transplantation
Sample size	2	a. Specify the exact number of experimental units allocated to each group, and the total number in each experiment. Also indicate the total number of animals used. b. Explain how the sample size was decided. Provide details of any *a priori* sample size calculation, if done.	Figure 3a. four groups of mice were studied, n=13 (control cell injected mice, n=9), endothelial-like cells, n=11; adipose like cells, n=13 and polyclonal cells, n=8) Total number of mice used in this group=41. In We selected the sample size per our previous experience
Inclusion and exclusion criteria	3	a. Describe any criteria used for including and excluding animals (or experimental units) during the experiment, and data points during the analysis. Specify if these criteria were established *a priori.* If no criteria were set, state this explicitly. b. For each experimental group, report any animals, experimental units or data points not included in the analysis and explain why. If there were no exclusions, state so. c. For each analysis, report the exact value of *n* in each experimental group.	We included samples based on our previous experience . Not excluded any data points. Figure 3a. four groups of mice were studied, n=13 (control cell injected mice, n=9), endothelial-like cells, n=11; adipose like cells, n=13 and polyclonal cells, n=8) Total
Randomisation	4	a. State whether randomisation was used to allocate experimental units to control and treatment groups. If done, provide the method used to generate the randomisation sequence. b. Describe the strategy used to minimise potential confounders such as the order of treatments and measurements, or animal/cage location. If confounders were not controlled, state this explicitly.	None None
Blinding	5	Describe who was aware of the group allocation at the different stages of the experiment (during the allocation, the conduct of the experiment, the outcome assessment, and the data analysis).	Varghese and Bentzen
Outcome measures	6	a. Clearly define all outcome measures assessed (e.g. cell death, molecular markers, or behavioural changes). b. For hypothesis-testing studies, specify the primary outcome measure, i.e. the outcome measure that was used to determine the sample size.	Tumor size, cell proliferation, cell colony formation Tumor size, cell proliferation, cell colony formation
Statistical methods	7	a. Provide details of the statistical methods used for each analysis, including software used. b. Describe any methods used to assess whether the data met the assumptions of the statistical approach, and what was done if the assumptions were not met.	Cell proliferation was analyzed by One-way analysis of variance (ANOVA) with Duncan multiple range test. Cell colony formation, qRT-PCR, vimentin expression in cells and tumor weight were analyzed by unpaired None
Experimental animals	8	a. Provide species-appropriate details of the animals used, including species, strain and substrain, sex, age or developmental stage, and, if relevant, weight. b. Provide further relevant information on the provenance of animals, health/immune status, genetic modification status, genotype, and any previous procedures.	Mice, Nu/Nu, male or female depending on the origin of cell lines used, Age approximately 4-5 weeks old. section: Methods; "Subcutaneous tumor growth and serial transplantation studies"Line 202. Athymic nude mice (Nu/Nu)
Experimental procedures	9	For each experimental group, including controls, describe the procedures in enough detail to allow others to replicate them, including: a. What was done, how it was done and what was used. b. When and how often. c. Where (including detail of any acclimatisation periods). d. Why (provide rationale for procedures).	Mice (Foxn1nu), 4-5 week old, were purchased and housed in a pathogen-free animal facility under standard conditions with access to food and water ad libitum. same as the previous section Tumor cell injection once as described in section 9 Mice were acclimatised per the IACUC guidelines. A rationale was generated based on literature search and previous in vivo experiments.
Results	10	For each experiment conducted, including independent replications, report: a. Summary/descriptive statistics for each experimental group, with a measure of variability where applicable (e.g. mean and SD, or median and range). b. If applicable, the effect size with a confidence interval.	All statistical analyses, except the microarray data, were presented as mean and s.e.m. The P-value, P<0.05, were considered statistically significant observation. Cell proliferation was analyzed N/A; Not used in our statistical analysis

The Recommended Set

These items complement the Essential 10 and add important context to the study. Reporting the items in both sets represents best practice.

Item		Recommendation	Section/line number, or reason for not reporting
Abstract	11	Provide an accurate summary of the research objectives, animal species, strain and sex, key methods, principal findings, and study conclusions.	Cancer stem cells (CSCs) and poorly differentia
Background	12	a. Include sufficient scientific background to understand the rationale and context for the study, and explain the experimental approach. b. Explain how the animal species and model used address the scientific objectives and, where appropriate, the relevance to human biology.	In normal pancreatic development, the pancreatic and duodenal homeobox-1 (Pdx1)-expressing cells differentiate into functionally different lineages. However, the differentiation trajectory of Pdx1-expressing Presently animal models are widely used and reliable methods to understand the tumor growth rate. In this study we used mouse tumor cell transplantation model to gauge in vivo tumor growth because the objective of
Objectives	13	Clearly describe the research question, research objectives and, where appropriate, specific hypotheses being tested.	Our objective is to test whether tumor-associate
Ethical statement	14	Provide the name of the ethical review committee or equivalent that has approved the use of animals in this study, and any relevant licence or protocol numbers (if applicable). If ethical approval was not sought or granted, provide a justification.	Animal studies were conducted under approved protocols of the University of Maryland Institutional Animal Care and Use Committee. section: Subcutaneous tumor growth and serial transplantation studies. Line 202.
Housing and husbandry	15	Provide details of housing and husbandry conditions, including any environmental enrichment.	Mice were purchased from the University of Ma
Animal care and monitoring	16	a. Describe any interventions or steps taken in the experimental protocols to reduce pain, suffering and distress. b. Report any expected or unexpected adverse events. c. Describe the humane endpoints established for the study, the signs that were monitored and the frequency of monitoring. If the study did not have humane endpoints, state this.	None; Not reported any adverse events. None; Not reported any adverse events. Mice were euthanized at the end of the study period. Other endpoints are mice euthanized if they show any signs of distress if the tumors ulcerate or become infected or at two months after the start of each experiment.
Interpretation/ scientific implications	17	a. Interpret the results, taking into account the study objectives and hypotheses, current theory and other relevant studies in the literature. b. Comment on the study limitations including potential sources of bias, limitations of the animal model, and imprecision associated with the results.	We hypothesized that whether tumor-associated cell differentiation arrest potentially contributes to the development of PDAC and any progenitor cell subset acquires strong translational signals to Cell transplantation (mouse) tumor models are widely used for tumor growth studies. However, the lack of tumor growth in differentiated adipose cells injected mice was unexpected in this study.
Generalisability/ translation	18	Comment on whether, and how, the findings of this study are likely to generalise to other species or experimental conditions, including any relevance to human biology (where appropriate).	This research is a preclinical study using human cell lines and mouse models. We performed in vivo experiments in mouse models which, is widely accepted for preclinical studies. We expect that our in vitro mechanism of action and in vivo results can be replicated in other experimental species as well as in humans. This study clearly
Protocol registration	19	Provide a statement indicating whether a protocol (including the research question, key design features, and analysis plan) was prepared before the study, and if and where this protocol was registered.	Animal studies were conducted under approved protocols of the University of Maryland Institutional Animal Care and Use Committee. Line:202-204.
Data access	20	Provide a statement describing if and where study data are available.	Research data were kept in the lab computers
Declaration of interests	21	a. Declare any potential conflicts of interest, including financial and non-financial. If none exist, this should be stated. b. List all funding sources (including grant identifier) and the role of the funder(s) in the design, analysis and reporting of the study.	The authors declare no competing financial or non-financial interest. Line 579-580 This study was sfunded by the Department of Surgery, University of Maryland School of Medicine. Hannah Mathew participated in the cell culture, western blotting and animal studies.

Article information: https://dx.doi.org/10.21037/apc-21-17