# 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. | Mouse anti-AQP9 (1:1,000, sc74409; Santa Cruz).<br>HRP-labeled Goat Anti-Mouse IgG antibody(IgG, 1:50; A0216, Beyotime, China)<br>β-Actin Mouse Monoclonal Antibody(IgG, 1:1000; AF0003, Beyotime, China) | |

| 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 | HCC cell lines (Hep3B, Huh-7, Li-7, and SUN182) were purchased from Shanghai Institute of Cell Biology (Shanghai, China) and a normal liver cell line (QSG-7701) was purchased from Beyotime (Shanghai, China). | |
| **Primary cultures:** Provide species, strain, sex of origin, genetic modification status. | | NO |

| 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 | | NO |
| **Animal observed in or captured from the field:** Provide species, sex and age where possible | | NO |
| **Model organisms:** Provide Accession number in repository (where relevant) **OR** RRID | | NO |

| 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) | | NO |
| **Microbes:** provide species and strain, unique accession number if available, and source | | NO |

| 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. | Ethics Committee of Affiliated Hospital of Nantong University<br>reference number， 2018-L006 | |
| Provide statement confirming informed consent obtained from study participants. | This section is uploaded as an additional file | |
| Report on age and sex for all study participants. | A total of 45 subjects, 33 males, 12 females, 4 were between 30 and 40 years old, 13 were between 40 and 50 years old, 16 were between 50 and 60 years old, and 12 were over 60 years old. | |

## Design

| Study protocol | Yes (indicate where provided: section/paragraph) | n/a |
|---|---|---|
| For clinical trials, provide the trial registration number **OR** cite DOI in manuscript. | | NO |

| Laboratory protocol | Yes (indicate where provided: section/paragraph) | n/a |
|---|---|---|
| Provide DOI or other citation details if detailed step-by-step protocols are available. | | NO |

| 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 | | NO |
| Randomisation | | NO |
| Blinding | | NO |
| Inclusion/exclusion criteria | | NO |

| Sample definition and in-laboratory replication | Yes (indicate where provided: section/paragraph) | n/a |
|---|---|---|
| State number of times the experiment was replicated in laboratory | All experiments were performed in triplicate. | |
| Define whether data describe technical or biological replicates | We did three biological repetitions, and three technical repetitions each time. | |

| 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. | Ethics Committee of Affiliated Hospital of Nantong University<br>reference number，2018-L006 | |
| Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval. | | NO |
| Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why. | | NO |

| 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 | | NO |

## 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. | Forty five subjects did not receive preoperative intervention or chemotherapy, and patients with preoperative treatment were excluded. | |

| Statistics | Yes (indicate where provided: section/paragraph) | n/a |
|---|---|---|
| Describe statistical tests used and justify choice of tests. | All statistical analyses were performed using SPSS 22.0 and GraphPad Prism 8.02 software. Data were represented as the mean ± standard deviation (SD) and differences between groups of data were evaluated by one-way analysis of variance (ANOVA). | |

| 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. | | NO |
| If data are publicly available, provide accession number in repository or DOI or URL. | | NO |
| If publicly available data are reused, provide accession number in repository or DOI or URL, where possible. | | NO |

| 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. | | NO |
| If code is publicly available, provide accession number in repository, or DOI or URL. | | NO |

## 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. | |

Article information: http://dx.doi.org/10.21037/tcr-20-3158