

## **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**

|                                                                                                                                                                                                         |                            |                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------|
| <b>Antibodies</b>                                                                                                                                                                                       | <b>Yes (indicate where</b> | <b>n/a</b>                                                                |
| For commercial reagents, provide supplier name, catalogue number and RRID, if available.                                                                                                                |                            | No antibodies were used in this study.                                    |
| <b>Cell materials</b>                                                                                                                                                                                   | <b>Yes (indicate where</b> | <b>n/a</b>                                                                |
| <b>Cell lines:</b> Provide species information, strain. Provide accession number in repository <b>OR</b> supplier name, catalog number, clone number, <b>OR</b> RRID                                    |                            | No cell lines were used in this study.                                    |
| <b>Primary cultures:</b> Provide species, strain, sex of origin, genetic modification status.                                                                                                           |                            | No primary cultures were used in this study.                              |
| <b>Experimental animals</b>                                                                                                                                                                             | <b>Yes (indicate where</b> | <b>n/a</b>                                                                |
| <b>Laboratory animals:</b> Provide species, strain, sex, age, genetic modification status. Provide accession number in repository <b>OR</b> supplier name, catalog number, clone number, <b>OR</b> RRID |                            | No laboratory animals were used in this study.                            |
| <b>Animal observed in or captured from the field:</b> Provide species, sex and age where possible                                                                                                       |                            | No animal observed in or captured from the field were used in this study. |
| <b>Model organisms:</b> Provide Accession number in repository (where relevant) <b>OR</b> RRID                                                                                                          |                            | No model organisms were used in this study                                |
| <b>Plants and microbes</b>                                                                                                                                                                              | <b>Yes (indicate where</b> | <b>n/a</b>                                                                |
| <b>Plants:</b> provide species and strain, unique accession number if available, and source (including location for collected wild specimens)                                                           |                            | No plants were used in this study.                                        |
| <b>Microbes:</b> provide species and strain, unique accession number if available, and source                                                                                                           |                            | No microbes were used in this study.                                      |
| <b>Human research participants</b>                                                                                                                                                                      | <b>Yes (indicate where</b> | <b>n/a</b>                                                                |
| Identify authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.                                                                                     |                            | This study did not involve any human research participants.               |
| Provide statement confirming informed consent obtained from study participants.                                                                                                                         |                            | This study did not involve any human research participants.               |
| Report on age and sex for all study participants.                                                                                                                                                       |                            | This study did not involve any human research participants.               |

**Design**

|                                                                                                                                                                     |                            |                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------|
| <b>Study protocol</b>                                                                                                                                               | <b>Yes (indicate where</b> | <b>n/a</b>                                                |
| For clinical trials, provide the trial registration number <b>OR</b> cite DOI in manuscript.                                                                        |                            | This study is not clinical trials.                        |
| <b>Laboratory protocol</b>                                                                                                                                          | <b>Yes (indicate where</b> | <b>n/a</b>                                                |
| Provide DOI or other citation details if detailed step-by-step protocols are available.                                                                             |                            | No laboratory protocol was used in this study.            |
| <b>Experimental study design (statistics details)</b>                                                                                                               | <b>Yes (indicate where</b> | <b>n/a</b>                                                |
| State whether and how the following have been done, <b>or</b> if they were not carried out.                                                                         |                            |                                                           |
| Sample size determination                                                                                                                                           |                            | No sample size determination was carried out.             |
| Randomisation                                                                                                                                                       |                            | No randomization was carried out.                         |
| Blinding                                                                                                                                                            |                            | No Blinding was carried out.                              |
| Inclusion/exclusion criteria                                                                                                                                        |                            | No inclusion or exclusion criteria was carried out.       |
| <b>Sample definition and in-laboratory replication</b>                                                                                                              | <b>Yes (indicate where</b> | <b>n/a</b>                                                |
| State number of times the experiment was replicated in laboratory                                                                                                   |                            | No laboratory experiment was performed.                   |
| Define whether data describe technical or biological replicates                                                                                                     |                            | No laboratory experiment was performed.                   |
| <b>Ethics</b>                                                                                                                                                       | <b>Yes (indicate where</b> | <b>n/a</b>                                                |
| Studies involving human participants: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.   |                            | The study did not involve any human participant.          |
| Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval. |                            | The study did not involve any experimental animals.       |
| Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why. |                            | The study did not involve any specimen and field samples. |
| <b>Dual Use Research of Concern (DURC)</b>                                                                                                                          | <b>Yes (indicate where</b> | <b>n/a</b>                                                |
| If study is subject to dual use research of concern, state the authority granting approval and reference number for the regulatory approval                         |                            | The study is not subject to dual use research.            |

**Analysis**

| <b>Attrition</b>                                                                                                                              | <b>Yes (indicate where provided: section/paragraph)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>n/a</b>                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| State if sample or data point from the analysis is excluded, and whether the criteria for exclusion were determined and specified in advance. | RNA-seq data and corresponding clinical information of patients with primary GBM used in this study are publicly available. Only the data with detailed survival information and radiation therapy record was included (Page 8, Line 123-133, Section "Materials and Methods", Paragraph "Database").                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                |
| <b>Statistics</b>                                                                                                                             | <b>Yes (indicate where provided: section/paragraph)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>n/a</b>                                                                                                     |
| Describe statistical tests used and justify choice of tests.                                                                                  | <p>The Kaplan-Meier method was used for survival analysis and <math>p &lt; 0.05</math> was regarded as significant by the log-rank test (Page 10, Line 169-171, Section "Materials and Methods", Paragraph "Statistical analysis").</p> <p>The limma package of R software was used to define differential expressed gene (Page 9, Line 136-138, Section "Materials and Methods, Paragraph "Identification of DEGs").</p> <p>To detect the prognostic value of DEGs, the survival package of R software was used for univariate Cox regression analysis and <math>p &lt; 0.05</math> was regarded as significant (Page 10, Line 171-173, Section "Materials and Methods, Paragraph "Statistical analysis").</p> |                                                                                                                |
| <b>Data Availability</b>                                                                                                                      | <b>Yes (indicate where provided: section/paragraph)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>n/a</b>                                                                                                     |
| State whether newly created datasets are available, including protocols for access or restriction on access.                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | RNA-seq data and corresponding clinical information of GAM patients used in this study are publicly available. |
| If data are publicly available, provide accession number in repository or DOI or URL.                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | RNA-seq data and corresponding clinical information of GAM patients used in this study are publicly available. |
| If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.                                  | TCGA, CGGA and ImmuneScore and StromalScore of TCGA GBM are publicly available at <a href="https://tcga-data.nci.nih.gov/tcga/">https://tcga-data.nci.nih.gov/tcga/</a> , <a href="http://www.cgga.org.cn/">http://www.cgga.org.cn/</a> , and <a href="https://bioinformatics.mdanderson.org/estimate/">https://bioinformatics.mdanderson.org/estimate/</a> , respectively. (Page 8, Line 128-133, Section "Materials and Methods, Paragraph "Database").                                                                                                                                                                                                                                                       |                                                                                                                |

| <b>Code Availability</b>                                                                            | <b>Yes (indicate where provided: section/paragraph)</b> | <b>n/a</b>                                                    |
|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------------|
| 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 newly generated code and software were used in this study. |
| If code is publicly available, provide accession number in repository, or DOI or URL.               |                                                         | No newly generated code and software were used in this study. |

**Reporting**

| <b>Adherence to community standards</b>                                                                                                                                                                                                  | <b>Yes (indicate where provided: section/paragraph)</b>                                       | <b>n/a</b> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------|
| 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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