

## **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 provided: page no/section/legend)</b>	<b>n/a</b>
For commercial reagents, provide supplier name, catalogue number and RRID, if available.		X
<b>Cell materials</b>	<b>Yes (indicate where provided: page no/section/legend)</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		X
<b>Primary cultures:</b> Provide species, strain, sex of origin, genetic modification status.		X
<b>Experimental animals</b>	<b>Yes (indicate where provided: page no/section/legend)</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		X
<b>Animal observed in or captured from the field:</b> Provide species, sex and age where possible		X
<b>Model organisms:</b> Provide Accession number in repository (where relevant) <b>OR</b> RRID		X
<b>Plants and microbes</b>	<b>Yes (indicate where provided: page no/section/legend)</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)		X
<b>Microbes:</b> provide species and strain, unique accession number if available, and source		X
<b>Human research participants</b>	<b>Yes (indicate where provided: page no/section/legend)</b>	<b>n/a</b>
Identify authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	All participants signed an informed consent for participation in an IRB-approved study run by NRCRM in Ukraine. TRIOS study was conducted according to a Partnership Agreement HHSN261201400291P between NCI and NRCRM. All biospecimens were provided as non-human research material after full anonymization by NRCRM. See Page 19 – Materials and Methods	
Provide statement confirming informed consent obtained from study participants.	See page 19- Materials and Methods	
Report on age and sex for all study participants.	See Supplementary Table 1	

## Design

<b>Study protocol</b>	<b>Yes (indicate where provided: page no/section/legend)</b>	<b>n/a</b>
For clinical trials, provide the trial registration number <b>OR</b> cite DOI in manuscript.		X
<b>Laboratory protocol</b>	<b>Yes (indicate where provided: page no/section/legend)</b>	<b>n/a</b>
Provide DOI or other citation details if detailed step-by-step protocols are available.		X
<b>Experimental study design (statistics details)</b>	<b>Yes (indicate where provided: page no/section/legend)</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		X
Randomisation		X
Blinding		X
Inclusion/exclusion criteria	Online Methods, p.1/ Chernobyl accident study population	
<b>Sample definition and in-laboratory replication</b>	<b>Yes (indicate where provided: page no/section/legend)</b>	<b>n/a</b>
State number of times the experiment was replicated in laboratory		X
Define whether data describe technical or biological replicates		X
<b>Ethics</b>	<b>Yes (indicate where provided: page no/section/legend)</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.	All participants signed an informed consent for participation in an IRB-approved study run by NRCRM in Ukraine. TRIOS study was conducted according to a Partnership Agreement HHSN261201400291P between NCI and NRCRM. All biospecimens were provided as non-human research material after full anonymization by NRCRM.	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.		X
Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why.		X
<b>Dual Use Research of Concern (DURC)</b>	<b>Yes (indicate where provided: page no/section/legend)</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		X

## Analysis

<b>Attrition</b>	<b>Yes (indicate where provided: page no/section/legend)</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.	Online Methods, p.1/ Chernobyl accident study population, YES	
<b>Statistics</b>	<b>Yes (indicate where provided: page no/section/legend)</b>	<b>n/a</b>
Describe statistical tests used and justify choice of tests.	Online Methods, p.24/ Statistical Analysis	
<b>Data Availability</b>	<b>Yes (indicate where provided: page no/section/legend)</b>	<b>n/a</b>
State whether newly created datasets are available, including protocols for access or restriction on access.	Main text, p. 14/ Data and materials availability	
If data are publicly available, provide accession number in repository or DOI or URL.	Molecular data are available from the Genomic Data Commons: <a href="https://gdc.cancer.gov/about-data/publications/TRIO-CRU-2021">https://gdc.cancer.gov/about-data/publications/TRIO-CRU-2021</a> , accessed through the database of Genotypes and Phenotypes (dbGaP, accession phs001163.v1.p1; <a href="https://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/study.cgi?study_id=phs001163.v1.p1">https://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/study.cgi?study_id=phs001163.v1.p1</a> ).	
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.		X
<b>Code Availability</b>	<b>Yes (indicate where provided: page no/section/legend)</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.	Main text, p. 14/ Data and materials availability	
If code is publicly available, provide accession number in repository, or DOI or URL.	<a href="https://github.com/NCI-CGR/ChernobylDNMCalling">https://github.com/NCI-CGR/ChernobylDNMCalling</a> .	

## Reporting

<b>Adherence to community standards</b>	<b>Yes (indicate where provided: page no/section/legend)</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.		X