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.		The study was not involved with the use of antibodies.

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		The study was not involved with the use of cell lines.
Primary cultures: Provide species, strain, sex of origin, genetic modification status.		The study was not involved with the use of primary culture.

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		The study was not involved with the use of animals.
Animal observed in or captured from the field: Provide species, sex and age where possible		The study was not involved with the use of animals.
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID		The study was not involved with the use of model organism.

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)		The study was not involved with the use of plants.
Microbes: provide species and strain, unique accession number if available, and source		The study was not involved with the use of microbes.

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.		The study was not involved with the use of human research participants.
Provide statement confirming informed consent obtained from study participants.		
Report on age and sex for all study participants.		

Design

Study protocol	Yes (indicate where provided: section/paragraph)	n/a
For clinical trials, provide the trial registration number **OR** cite DOI in manuscript.		The study was not involved with clinical trials.

Laboratory protocol	Yes (indicate where provided: section/paragraph)	n/a
Provide DOI or other citation details if detailed step-by-step protocols are available.	Page 4, line 84, section materials and methods, honey samples, first pargraph. DOI: 10.1097/01.BCR.0000036453.98917.41 Page 5, line 90, section materials and methods, determination of pH values, first pargraph. http://www.ihc–platform.net/ihcmethods2009.pdf Page 5, line 96, section materials and methods, determination of electrical conductivity, first pargraph. http://www.ihc–platform.net/ihcmethods2009.pdf Page 5, line 103, section materials and methods, determination of colour intensity, first pargraph. DOI: 10.1016/j.aca.2004.11.010 Page 6, line 111, section materials and methods, determination of moisture content, first paragraph. https://law.resource.org/pub/us/cfr/ibr/002/aoac.methods.1.1990.pdf Page 6, line 121, section materials and methods, determination of ferric reducing antioxidant power, first paragraph. DOI: 10.1006/abio.1996.0292	

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.	Mean ± standard deviation using Microsoft excel	
Sample size determination	2-100 g	
Randomisation		No randomization was applied.

Blinding	Blank was used as negative control.	
Inclusion/exclusion criteria		No inclusion/ exclusion criteria were applied.

Sample definition and in-laboratory replication	**Yes (indicate where provided: section/paragraph)**	**n/a**
State number of times the experiment was replicated in laboratory	Triplicate experiments	
Define whether data describe technical or biological replicates	Technical replicate	

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.		The study was not involved human participants.
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.		The study was not involved 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 used natural Tualang honey purchased from the Federal Agricultural Marketing Authority (Kuala Nerang, Kedah, Malaysia).	

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		Not applicable.

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.		No data point was excluded in the study.

Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of tests.	Analysis of variance to compare the significance of data	

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.	As presented in the figures and table of manuscript.	
If data are publicly available, provide accession number in repository or DOI or URL.		No specific DOI or URL
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.		No reuse of publicly available data in the study.

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 code or software was generated or used in the study.
If code is publicly available, provide accession number in repository, or DOI or URL.		No code or software was generated or used in the study.

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.	The guideline of ICMJE has been followed and a checklist of MDAR is provided with the manuscript.	

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