

Declaration of contribution by authors and collaborators

Identification of the manuscript:

Identification of co-authors:

Contribution in (in the present section authors should specify, **for each item**, the name(s) of the author(s) that participated in the different phases mentioned)

- 1) **Conceptualization** (ideas, formulation or evolution of overarching research goals and aims).
- 2) **Data curation** (management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later re-use).
- 3) **Formal analysis** (application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data).
- 4) **Funding acquisition** (acquisition of financial support for the project leading to this publication).
- 5) **Investigation** (conducting research and investigation process, specifically performing the experiments, or data/evidence collection).

- 6) **Methodology** (development or design of methodology; creation of models).
- 7) **Project administration** (management and coordination responsibility for research activity planning and execution).
- 8) **Resources** (provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools).
- 9) **Software** (programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components).
- 10) **Supervision** (oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team).
- 11) **Validation** (verification, whether as a part of the activity or separate, of the overall replication/reproducibility of results/experiments and other research outputs).
- 12) **Visualization** (preparation, creation and/or presentation of the published work, specifically visualization/data presentation).
- 13) **Writing of original draft** (preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation)).
- 14) **Writing** (review & editing: preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision – including pre- or post-publication stages).