

MISEV2023 Outreach: Frequently Asked Questions

What is the citation for MISEV2023?

Currently, the citation can be given as:

Welsh JA, Goberdhan DCI, and O'Driscoll L, et al. "Minimal information for studies of extracellular vesicles (MISEV2023): from basic to advanced approaches." J Extracell Vesicles. 2023; Accepted.

A link and doi will be forthcoming.

When will MISEV2023 be published?

Imminently. We are expecting publication online before the end of 2023. The manuscript will be called "MISEV2023" even it is assigned to an issue in the new year.

Do I need permission from ISEV or any of the MISEV co-authors to write an editorial, post on social media, or engage in any other form of outreach for MISEV?

No. You are welcome and encouraged to engage in any type of outreach that you see fit. You do not need permission from ISEV or the MISEV authors except for any co-authors who assist you (e.g.) on any new publication.

I would like to write an editorial or other article on MISEV with one or more MISEV co-authors. Are there any restrictions on this?

No. You are welcome to solicit contributions and assistance from anyone as a co-author.

I would like to get a quote from a lead author or ask some other question as part of my outreach. Who are the corresponding authors of MISEV?

The corresponding authors and their email addresses (just replace (" at " with the symbol):

Joshua Welsh (joshua.welsh at nih.gov)

Deborah Goberdhan (deborah.goberdhan at wrh.ox.ac.uk)

Lorraine O'Driscoll (lodrisc at tcd.ie)

Clotilde Théry (Clotilde.Thery at curie.fr)

Kenneth Witwer (kwitwer1 at jh.edu)

The correspondents appreciate your patience, as they may be experiencing a large volume of correspondence. You may also reach out to ISEV at: contact@isev.org

I am not a MISEV co-author but would like to help promote the guidelines. Is this possible?

Yes! All are welcome to contribute, not just MISEV co-authors.

Can I make a figure or graph to promote MISEV?

Yes. Anyone is welcome to make and show a summary figure. Permission is not needed from ISEV or the MISEV authors as long as you make clear that the figure is yours. However, ISEV does not have additional figures or a summary figure at this time.

MISEV was a global effort. How many co-authors, and where do they come from?

Based on primary affiliation as provided by the 1045 co-authors (secondary and tertiary affiliation(s), if provided, are not analyzed here):

| Country | Number of Authors | | |
|-------------|-------------------|--------------|---|
| US | 269 | New Zealand | 9 |
| Australia | 71 | Norway | 8 |
| Italy | 67 | Chile | 6 |
| UK | 60 | Argentina | 5 |
| France | 56 | Malaysia | 4 |
| Germany | 50 | Taiwan | 4 |
| Canada | 43 | Iran | 3 |
| Netherlands | 37 | Israel | 3 |
| Spain | 32 | Kazakhstan | 3 |
| Sweden | 32 | Singapore | 3 |
| Japan | 29 | South Africa | 2 |
| Hungary | 28 | Estonia | 2 |
| Korea | 27 | Luxembourg | 2 |
| China | 22 | Serbia | 2 |
| Belgium | 20 | Turkey | 2 |
| Austria | 17 | Bangladesh | 1 |
| Switzerland | 16 | Costa Rica | 1 |
| India | 15 | Cyprus | 1 |
| Brazil | 14 | Egypt | 1 |
| Denmark | 14 | Iceland | 1 |
| Portugal | 13 | Latvia | 1 |
| Ireland | 12 | Lithuania | 1 |
| Poland | 11 | Malta | 1 |
| Slovenia | 11 | Mexico | 1 |
| Finland | 9 | Russia | 1 |
| | | Thailand | 1 |
| | | Uruguay | 1 |

What are the key parts and points of MISEV?

MISEV covers:

- **Nomenclature**, which defines what we are working with: extracellular vesicles and their subtypes. To describe subpopulations of EVs, operational terms are typically encouraged over biogenesis-related terms. It is also important to consider that EVs may not be the only extracellular particles (EPs) in a preparation. Non-vesicular EPs (NVEPs) include some very well-known particles (like lipoprotein particles) and others that have been more recently described (like exomeres).

- **Pre-analytical variables:** how and what to consider and report for various sources of EVs. The parts of this section were prepared by ISEV task forces on EV sources such as blood, urine, cell culture-conditioned medium, and more.
- **EV separation and concentration:** although few methods have changed substantially since 2018, the section now has more detail and updates from MISEV2018.
- **EV characterization:** one of the most important parts of the document, giving guidance on how to show the presence of constituent parts of the EV while also assessing whether "expected" or unexpected contaminants/co-isolates are present.
- **Technique-specific reporting requirements:** This new section expands on characterization with recommendations for a variety of characterization technologies that are commercially available. The topics in this section are based on the results of the 2020 pre-MISEV survey and were covered by topic experts who were recruited by the lead author team.
- **EV release and uptake studies:** a new section with considerations for biogenesis and association studies.
- **EV functional studies:** emphasizes the importance of proper controls to attribute a given effect to specific EVs.
- **EV in vivo studies:** an overview of opportunities and challenges with studying EVs "live" in various organisms and pre-clinical models

Importantly, MISEV also contains an "IS/IS NOT" section in the introduction. MISEV should be used to build rigorous and reproducible research, but not to stifle innovation.

How was MISEV2023 produced?

MISEV2023 is the culmination of a three-year process. Here is a description from the conclusion of MISEV2023 (you are welcome to quote this material):

"Consensus building was achieved for MISEV2023 through a lengthy process. Suggestions for the new MISEV were gathered from the ISEV community and MISEV2018 authorship through a 2020 survey that received >750 responses (Witwer et al. 2021). A five-member MISEV2023 organizing committee was then formed during the strategic planning session of the ISEV Board of Directors in November 2020, consisting of Deborah Goberdhan, Lorraine O'Driscoll, Clotilde Théry, Joshua Welsh, and Kenneth Witwer. An initial MISEV2023 draft went through rounds of review and revision by members of the ISEV board and other individuals, including task force members, who were invited by the organizing team because of their subject expertise relevant to specific sections. An exhaustive MISEV2023 survey was circulated to ~5700 EV researchers, and 1025 responses were received. Refinements were made to the manuscript by the organizing committee and invited co-authors based on these responses. The manuscript was then submitted to the Journal of Extracellular Vesicles. The journal selected more than 30 individual experts to review the manuscript, and reviews were shared with the organizing committee along with editorial suggestions. The manuscript was then revised by the organizing committee and subject experts, and the ISEV Board of Directors was consulted on matters of timing and logistics. At the request of the ISEV Board, the revised manuscript was sent via survey to all who were involved in developing the guidelines and who had indicated willingness to accept co-authorship. The results of this authorship survey were used to gauge consensus on each section

and to determine the final author lists before resubmission to the journal. The consensus statements at the end of Sections 1 through 9 reflect the complete answers of 998 unique MISEV2023 authorship confirmation survey respondents. There were 1039 responses in total, including several duplicates, one triplicate, three declines, and several incomplete responses. Note that several confirmed authors did not complete the survey for reasons that were deemed valid, including technical issues."