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International Society for Extracellular Vesicles Releases Latest Study to the Members of the EV Field ISEV has released MISEV2018 via the Society's Journal, listing newest recommendations and updates that can be referenced by those working within the field of extracellular vesicles

MOUNT ROYAL, NJ – November 27, 2018 – The International Society for Extracellular Vesicles (ISEV), the leading international advocate and guide of research on extracellular vesicles (EVs), is pleased to announce the publication of this year's <u>updated guidelines</u> for the study of extracellular vesicles, known to the industry as the Minimal Information for Studies of Extracellular Vesicles (MISEV.) This includes guidelines related to EVs, including exosomes, microvesicles, microparticles, ectosomes, and oncosomes. Published in the Society's <u>Journal of Extracellular Vesicles</u> (JEV), the first study-MISEV2014- has accumulated more than 700 citations since its release, achieving the goal of encouraging rigor in EV research.

A 2016 survey of ISEV members reaffirmed the need for such guidelines and also recommended that they be updated regularly and with broad community input to accommodate the quickly developing field. In response, the ISEV Board launched a two-year initiative that has culminated in MISEV2018. Published in JEV-now with Taylor & Francis and tracked for impact factor in June, 2019-MISEV2018 updates the topics of nomenclature, separation, characterization and functional analysis, integrating the contributions of more than 380 ISEV scientists. A two-page checklist summarizing the main points is also included.

MISEV2018 has several differences from the edition released in 2014, including the recommendation of the use of 'extracellular vesicle' as the preferred generic terminology in publications, in part due to the challenges in confirming the biogenesis mechanisms of the subtypes such as "exosomes" and "ectosomes." Since many separation and concentration options are now available, researchers should pick the methods most fit for downstream purpose and, more importantly, report all details clearly and accurately. The EV-TRACK database (van Deun, et al, Nature Methods, 2017) is supported as a way to record these details to improve clarity and reproducibility.

To establish presence of extracellular vesicles (EVs), examples of EV-enriched markers are provided, but the need for "negative," or depleted, markers is also highlighted. MISEV2018 adds assessment of topology as a recommended form of EV characterization, citing identifying where in or on a vesicle a particular molecule of interest resides, as an example. It also recommends the functional analysis of the 'non-EV' fractions to confirm EV equals or does not equal specific function. An appreciation of EV heterogeneity is included with a reminder that not only small "exosomes," but also larger EV subtypes can have important functions. Preferably, a range of EV subtypes will be included in functional studies.

Finally, although some of the specific details contained in MISEV2018 are focused on mammalian studies, the guidelines are broadly applicable to non-mammalian and non-eukaryote research.

To obtain additional information about MISEV2018, visit <u>isev.org</u>. Questions and requests for ISEV member interviews can also be submitted via the website.

About the International Society for Extracellular Vesicles (ISEV)

The International Society for Extracellular Vesicles (ISEV) is a global society of leading extracellular vesicles, exosomes and microvesicle researchers. With over 1,200 total members around the world, ISEV's mission is to advance extracellular vesicle research globally. As an organization, ISEV connects top researchers at its Annual Meeting, workshops and other events. For more information about ISEV, its programs, events or members, visit isev.org.