

# A Statistical Look into EV Horizons

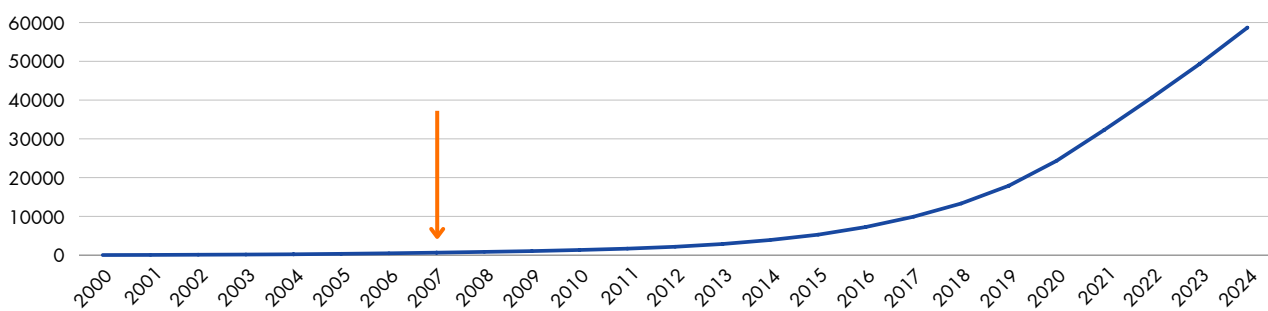


Figure 1: Total number of EV-based publications over the years

HansaBioMed Life Sciences was born in 2007 as the first company to focus solely on the extracellular vesicles (EVs) field. Back then, the total number of publications on EVs was measurable by hundreds. From that point, it reached a level where annually thousands of papers are being published on variety of topics exploiting the merits of EVs.

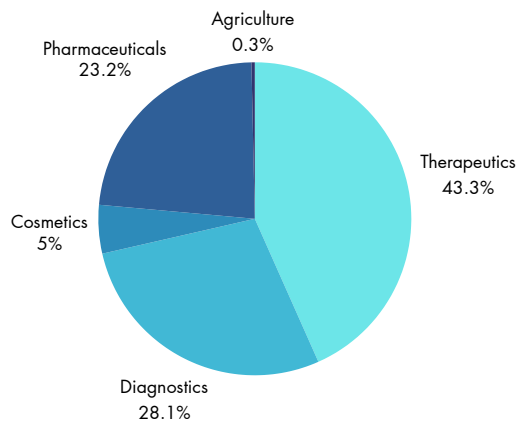


Figure 2: Weight of application areas in EV research based on number of publications

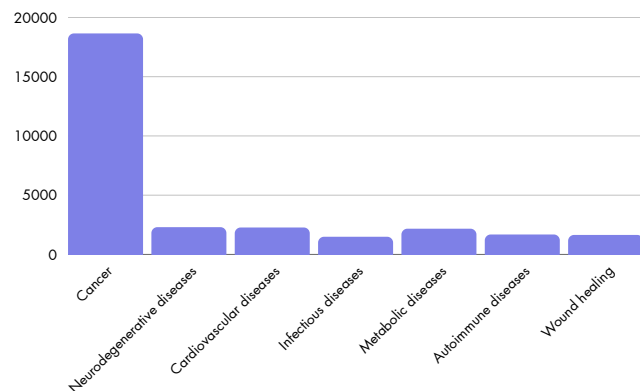


Figure 3: Total number of EV-based publications focusing on different clinical areas

Even though various application areas are investigated in EV research, the focus is on clinical applications by far.

Among many, the mostly studied disease group by the EV researchers is dominantly cancer.

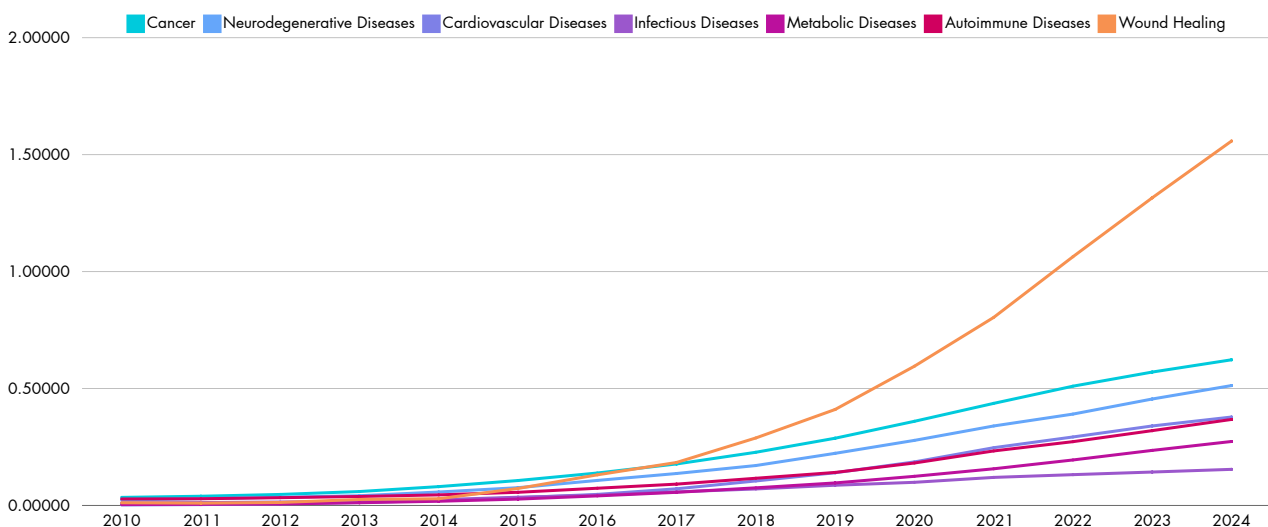


Figure 4: Percentage of EV-based publications among all for different diseases over years

It is also worth noting that the share of EV field among all publications in clinical fields is growing rapidly. Especially the rapid climb of the share of EVs in wound healing research is one to watch closely. Clearly, this can be attributed to many reasons including the developing know-how on EVs from stem cells, platelets, and plants for wound healing purposes.

\*All data are based on PubMed publications.

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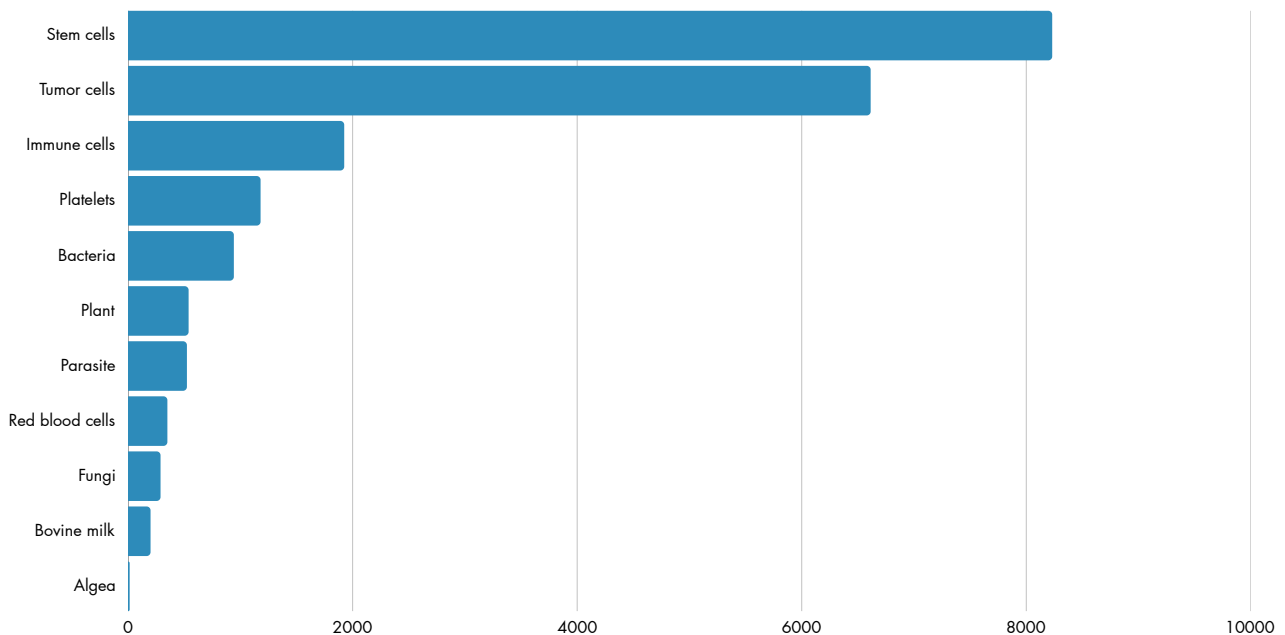


Figure 5: Total number of papers using different EV sources

Indeed, stem cells have quickly become the most popular source of EVs, surpassing tumor cells after 2020s. Even though EVs derived from these two sources are highly dominant in the EV research, there are multiple sources coming forward by featuring different advantages, ranging from source availability to even ethical concerns when developing a product. As HansaBioMed Life Sciences, we commercialize research-use-only EVs from variety of sources to enable researchers make the most of EVs.

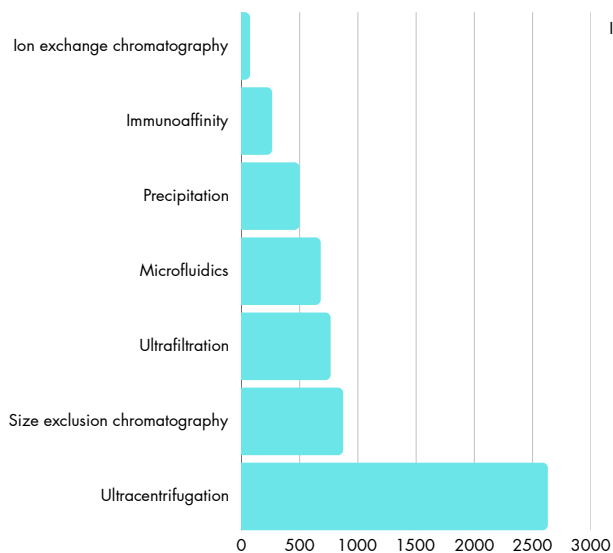


Figure 6: Total number of papers mentioning different isolation techniques used in EV research

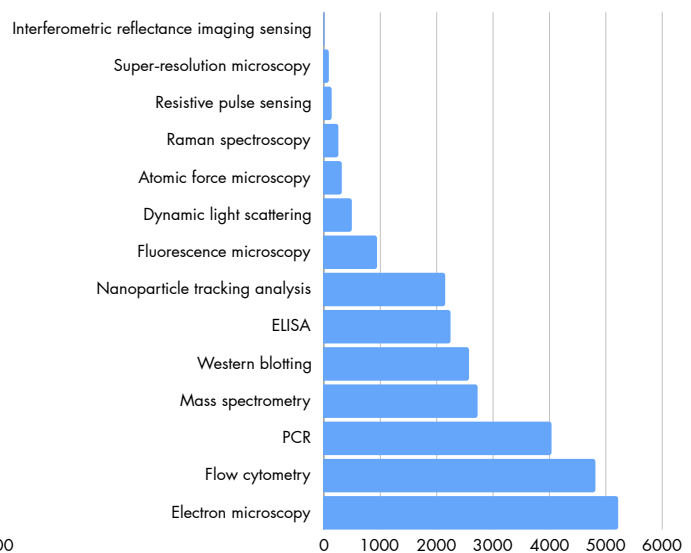


Figure 7: Total number of papers mentioning different characterization techniques used in EV research

Even though ultracentrifugation is still considered a gold-standard for EV isolation, its downsides are not a secret. In response, EV researchers constantly seek for novel approaches to overcome isolation challenges. At HansaBioMed Life Sciences, we offer various EV isolation tools with size, immunoaffinity, surface charge, or chemical precipitation-based approaches.

EV characterization is a multi-faceted problem that requires a combination of size, concentration, morphology, and most important of all, marker expression analysis. Hence, multiple techniques are employed to characterize and analyze the content of EVs for different end goals. Our ready-to-use ELISA, FACS, or enzyme kits can be used to characterize EVs in terms of their quantity, marker expression, or functionality.

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