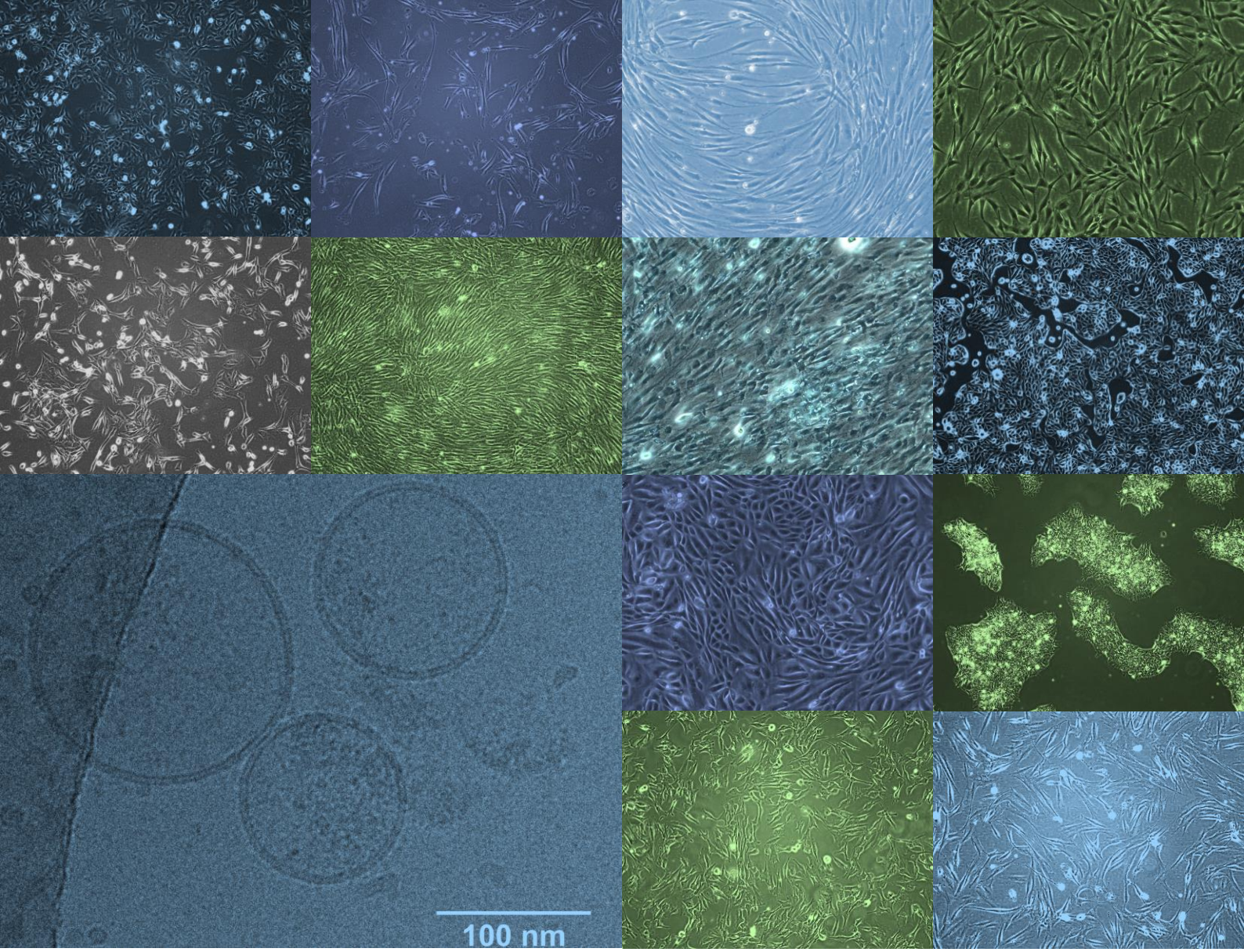


EV toolbox

From production hosts to recombinant EVs for in vitro tests and clinical applications

Novel production hosts for extracellular vesicles – human telomerized cell lines retain the cell-type specific phenotype while constantly growing. No more lot-to-lot variability. No more growth arrest.

Just the perfect choice!

www.evercyte.com

EVERCYTE

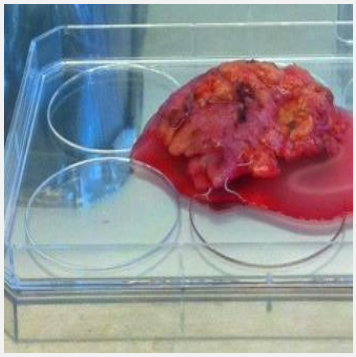
Extracellular vesicles from human telomerized cells

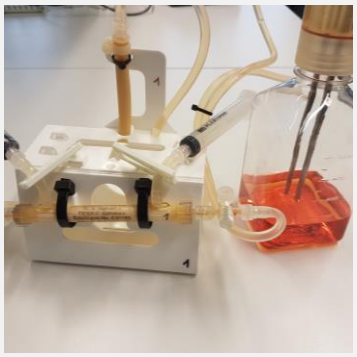
Extracellular vesicles (EVs) play an essential role in cellular communication by transporting proteins, lipids as well as nucleic acids. Thus, EVs have attracted the attention of biomedical research in immunotherapy, anti-tumor therapy, or regenerative and transplant medicine, as EVs secreted from e.g. human stem cells have been shown to be equally effective as the transplanted cells in different studies. Thus, using EVs instead of cells might reduce regulatory burden and allow for therapeutic off-the-shelf products.

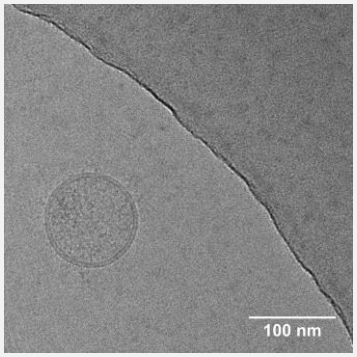
Evercyte has focused on the establishment of human cell lines that allow standardizable production of high quality extracellular vesicles.

ONE-STOP-SHOP: products and services

From primary tissues - to telomerized cells - to production of EVs - to purification, characterization of EVs





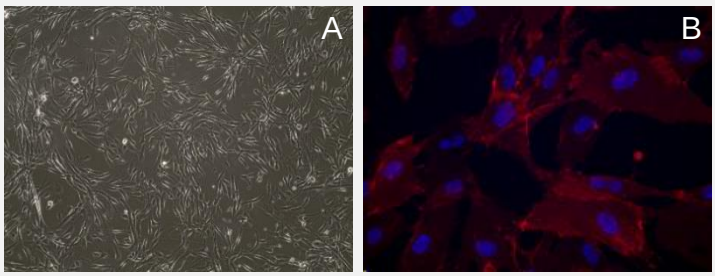


Human production hosts

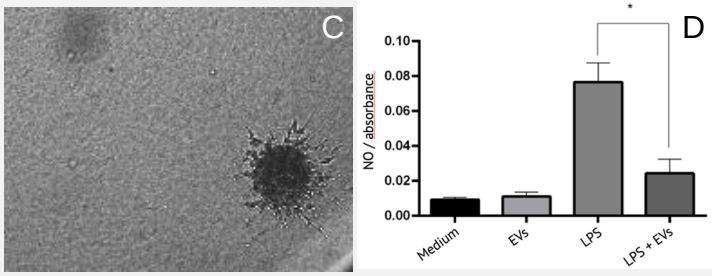
- Tissue sourcing and establishment of primary cells (under xeno-free conditions)
- Life span extension of primary cells by ectopic expression of hTERT and/or cell cycle regulators using non-viral gene transfer
- Characterization of cells for expression of cell type specific markers and function, quality control testing, cell stability, identity, growth potential)

Extracellular vesicles

- Production of extracellular vesicles in 2D/3D culture (e.g. hollow fiber bioreactor)
- Purification of EVs using ultracentrifugation, tangential flow filtration, size exclusion chrom.
- Characterization of EVs for size (NTA), protein content and presence of antigens (WB), morphology (cryo-EM), potency (e.g. angiogenic, anti-fibrotic, wound-healing, anti-inflammatory activities)



(A) Typical morphology of telomerized Wharton´s jelly derived MSCs (WJ-MSC), (B) expression of CD90 in telomerized Wharton´s Jelly MSCs (WJ-MSC/TERT273)



(C) induction of sprout formation in endothelial spheroids and (D) reduction of LPS induced inflammatory reaction upon treatment with EVs from Wharton´s Jelly MSCs (WJ-MSC/TERT273).

Evercyte´s EV toolbox

- Telomerized cells from different human tissues
- EVs produced from different telomerized cells
- Customer tailored cell line establishment
- Purification and characterization of EVs
- Potency assay development
- Generation of recombinant EVs

Needs for production hosts

- Approval from responsible IRB
- Informed consent by tissue donor
- Tests for presence of contamination
- Authentication (STR profiling)
- Stability and longevity testing
- Full documentation, xeno-free cultivation

EVs towards clinical application

EVs produced by human cell lines established under xeno-free conditions with full documentation!

NEW!

Evercyte GmbH
office@evercyte.com,
www.evercyte.com
Leberstraße 20, 1110 Vienna, Austria

EVERCYTE