



Extracellular Vesicles from the EVscale™ Technology Platform

Developed by Phoenestra, Evercyte and TAmiRNA

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Introduction

Extracellular Vesicle preparations from the following cell lines are readily available:

Code	Tissue Source	GMP ready
ASC/TERT300*	Adipose tissue	Yes
BM-MSC/TERT292*	Bone marrow	Yes
WJ-MSC/TERT273*	Wharton´s Jelly	Yes
P-MSC/TERT308*	Amniotic Membrane	Yes
CP-MSC/TERT308*	Chorionic Plate	Yes

Extracellular Vesicles from Mesenchymal Stromal Cells (MSC) from different tissues display different biological functionalities as tested in developed cell-based bioassays. Telomerized MSC (MSC/TERT) preserve these biological functionalities while opening the possibility for consistent supplies of defined EV products for pre-clinical, clinical and commercial use (EVscale™). Below you will find a selection of MSC/TERT-EV Phoenestra can routinely supply. Some key attributes are shown, more attributes and data are available upon request. The analytical panel as well as the EV amounts and aliquot sizes can be customized to your needs. All EV preparations come sterile filtered and tested for sterility and endotoxin if required.

Adipose Tissue-derived MSC/TERT-EV (ASC/TERT-EV)

EV from ASC/TERT are collected from EVscale™ perfusion culture harvests. The harvest aliquots are concentrated and washed by Tangential Flow Filtration (TFF), the available EV preparations have the following specifications and readouts:

Feature	Method	Range / Readout
Total EV	NTA	10 ⁹ to 10 ¹³ range, in customizable aliquot sizes
EV Concentration	NTA or NanoFCM	1 x 10 ¹⁰ – 1 x 10 ¹¹ EV/mL
Protein-to-Particle Ratio	BCA and NTA	in mg protein per 1 x 10 ¹⁰ EV

EV marker proteins	NanoFCM	CD9, CD63, CD81 and/or other markers (in % of EV population)
Relative Biological Activity*	Anti-inflammatory Assay (AI)	in % of positive control (Dexamethasone)
Relative Biological Activity**	Anti-fibrotic Assay (AF)	in % of positive control (PP2)
miRNA pattern***	RNAseq	Qualitative and quantitative miRNA profile

Bone Marrow-derived MSC/TERT-EV (BM-MSC/TERT-EV)

EV from BM-MSC/TERT are collected from EVscale™ perfusion culture harvests. The harvest aliquots are concentrated and washed by Tangential Flow Filtration (TFF), the available EV preparations have the following specifications and readouts:

Feature	Method	Range / Readout
Total EV	NTA	10 ⁹ to 10 ¹³ range, in customizable aliquot sizes
EV Concentration	NTA or NanoFCM	1 x 10 ¹⁰ – 1 x 10 ¹¹ EV/mL
Protein-to-Particle Ratio	BCA and NTA	In mg protein per 1 x 10 ¹⁰ EV
EV marker proteins	NanoFCM	CD9, CD63, CD81 and/or other markers (in % of EV population)
Relative Biological Activity*	Anti-inflammatory Assay (AI)	in % of positive control (Dexamethasone)
Relative Biological Activity**	Anti-fibrotic Assay (AF)	in % of positive control (PP2)
miRNA pattern***	RNAseq	Qualitative and quantitative miRNA profile

Wharton´s Jelly-derived MSC/TERT-EV (WJ-MSC/TERT-EV)

EV from WJ-MSC/TERT are collected from EVscale™ perfusion culture harvests. The harvest aliquots are concentrated and washed by Tangential Flow Filtration (TFF), the available EV preparations have the following specifications and readouts:

Feature	Method	Range / Readout
Total EV	NTA	10 ⁹ to 10 ¹³ range, in aliquots
EV Concentration	NTA or NanoFCM	1 x 10 ¹⁰ – 1 x 10 ¹¹ EV/mL
Protein-to-Particle Ratio	BCA and NTA	In mg protein per 1 x 10 ¹⁰ EV
EV marker proteins	NanoFCM	CD9, CD63, CD81 and/or other markers (in % of EV population)
Relative Biological Activity*	Anti-inflammatory Assay (AI)	in % of positive control (Dexamethasone)
Relative Biological Activity**	Anti-fibrotic Assay (AF)	in % of positive control (PP2)
miRNA pattern***	RNAseq	Qualitative and quantitative miRNA profile

Placenta-derived MSC/TERT-EV (P-MSC/TERT-EV)

EV from P-MSC/TERT are collected from EVscale™ perfusion culture harvests. The harvest aliquots are concentrated and washed by Tangential Flow Filtration (TFF), the available EV preparations have the following specifications and readouts:

Feature	Method	Range / Readout
Total EV	NTA	10 ⁹ to 10 ¹³ range, in customizable aliquot sizes
EV Concentration	NTA or NanoFCM	1 x 10 ¹⁰ – 1 x 10 ¹¹ EV/mL
Protein-to-Particle Ratio	BCA and NTA	In mg protein per 1 x 10 ¹⁰ EV
EV marker proteins	NanoFCM	CD9, CD63, CD81 and/or other markers (in % of EV population)
Relative Biological Activity*	Anti-inflammatory Assay	in % of positive control (Dexamethasone)
Relative Biological Activity**	Anti-fibrotic Assay (AF)	in % of positive control (PP2)
miRNA pattern***	RNAseq	Qualitative and quantitative miRNA profile

Chorionic Plate-derived MSC/TERT-EV (CP-MSC/TERT-EV)

EV from CP-MSC/TERT are collected from EVscale™ perfusion culture harvests. The harvest aliquots are concentrated and washed by Tangential Flow Filtration (TFF), the available EV preparations have the following specifications and readouts:

Feature	Method	Range / Readout
Total EV	NTA	10 ⁹ to 10 ¹³ range, in customizable aliquot sizes
EV Concentration	NTA or NanoFCM	1 x 10 ¹⁰ – 1 x 10 ¹¹ EV/mL
Protein-to-Particle Ratio	BCA and NTA	ln mg protein per 1 x 10 ¹⁰ EV
EV marker proteins	NanoFCM	CD9, CD63, CD81 and/or other markers (in % of EV population)
Relative Biological Activity*	Anti-inflammatory Assay (AI)	in % of positive control (Dexamethasone)
Relative Biological Activity**	Anti-fibrotic Assay (AF)	in % of positive control (PP2)
miRNA pattern***	RNAseq	Qualitative and quantitative miRNA profile

* in collaboration with Evercyte GmbH. Assay principle: Mouse Makrophages triggered with Lipopolysaccharide (LPS), quantitation of response by NO secretion; positive control: Dexamethasone; www.evercyte.com

** in collaboration with Evercyte GmbH. Assay principle: TGF-β triggered fibroblasts express α-SMA as a marker of fibrosis induction; positive control: src kinase inhibitor PP2; www.evercyte.com

*** in collaboration with TAmiRNA GmbH, a specialist in RNA profiling and -omics techniques in general; www.tamirna.com

Further analyses and services are available upon request

Please contact us under orders@phoenestra.com for further information, sample data, testing samples or a quotation