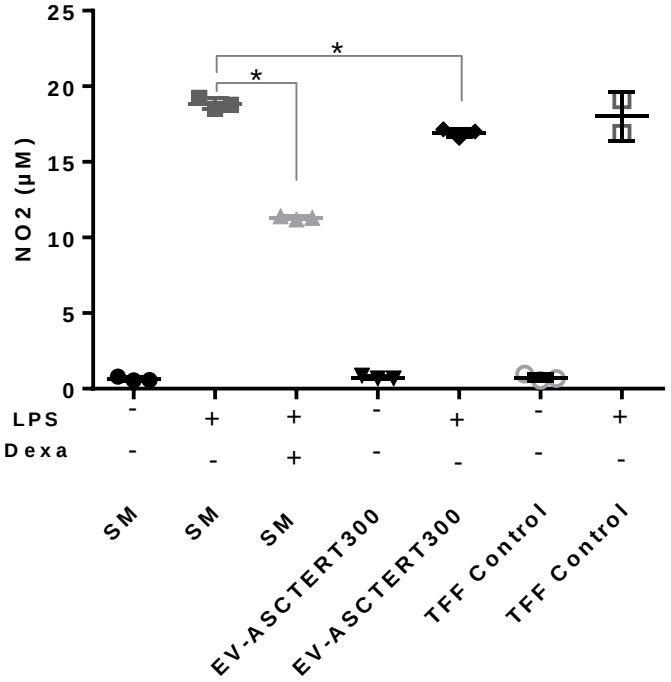
Extracellular vesicles from ASC/TERT300 Anti-inflammatory activity in vitro



Treatment of mouse macrophage cells with lipopolysaccharide (LPS) induces an inflammatory reaction as mirrored by formation of nitric oxide (NO).

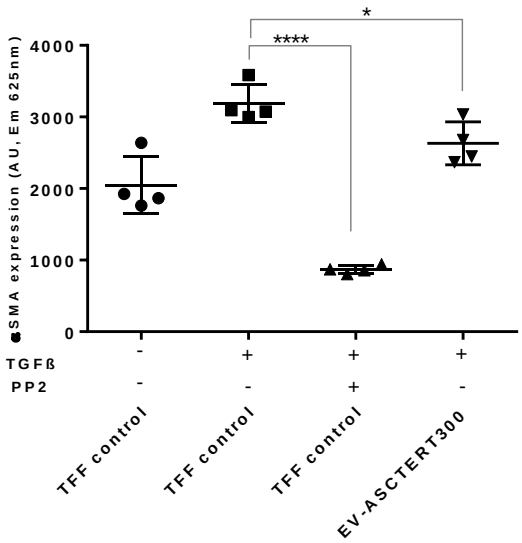
Addition of extracellular vesicles from ASC/TERT300 cells significantly reduces NO formation indicating an anti-inflammatory activity of the EVs.

Dexamethasone in starvation medium (SM) was used as positive, TFF enriched cell culture medium as negative control.

Characterization of produced EVs
Potency of EVs / anti-fibrotic activity in vitro

Treatment of human fibroblasts (fHDF/TERT166) with:
Transforming Growth Factor beta (TGF-ß) induces the expression of alpha smooth muscle actin (**α**-SMA) indicating myofibroblast activation.

Measurement of **α**-SMA in the absence/presence of EVs by immunofluorescent staining.



- Reduction of alpha-SMA expression upon treatment with EVs
- Demonstration of anti-fibrotic activity of EVs derived from ASCTERT300 cells

Characterization of produced EVs
RNASeq analysis

Top genes with highest read counts in ASCTERT300

	GO - Biological process[i]
MT-RNR2	cell population proliferation Source: UniProtKB positive regulation of mitochondrial translation Source: UniProtKB
FN1	acute-phase response Source: UniProtKB-KW Angiogenesis Source: UniProtKB-KW biological process involved in interaction with symbiont Source: CAFA
MT-CO3	aerobic respirationSource: GO_Central mitochondrial electron transport, cytochrome c to oxygen Source: GO_Central respiratory chain complex IV assembly Source: UniProtKB
COL1A1	blood vessel development Source: UniProtKB bone trabecula formation Source: Ensembl cartilage development involved in endochondral bone morphogenesis Source: Ensembl cellular response to amino acid stimulus Source: Ensembl

Characterization of cells
RNASeq analysis

COL6A1	cell adhesion Source: UniProtKB-KW cellular response to amino acid stimulus Source: Ensembl endodermal cell differentiation Source: UniProtKB osteoblast differentiation Source: UniProtKB
MT-CYB	animal organ regeneration Source: Ensembl electron transport coupled proton transport Source: Ensembl hyperosmotic salinity response Source: Ensembl mitochondrial electron transport ubiquinol to cytochrome c Source: UniProtKB
MT2A	cellular copper ion homeostasis Source: ProtInc cellular response to cadmium ion Source: GO_Central cellular response to copper ion Source: GO_Central
MT-ATP6	aging Source: Ensembl ATP synthesis coupled proton transport Source: GO_Central mitochondrial ATP synthesis coupled proton transport Source: UniProtKB response to hyperoxia Source: Ensembl
MALAT1	MALAT1 is **a nuclear retained RNA that localizes to nuclear domains known** as nuclear speckles [16]. Nuclear speckles are enriched in pre-mRNA processing factors, as well as some transcription factors, and play a critical role in coordinating transcriptional and post-transcriptional gene regulation

Expertise and enthusiasm for your aims!

Evercyte GmbH, Leberstraße 20, 1110 Vienna, Austria
FN 358620 h, HG Wien, UID/VAT: ATU66244913

regina.grillari@evercyte.com