Exosomes: Isolation, Characterization and Therapeutic Potential for Neurological and Cardiological diseases

Prof. Barbara Zavan

Tissue Engineering and Regenerative Laboratory

Dpt Biomedical Sciences, University of Padua, Padova, Italy

barbara.zavan@unipd.it

Gloria Bellin

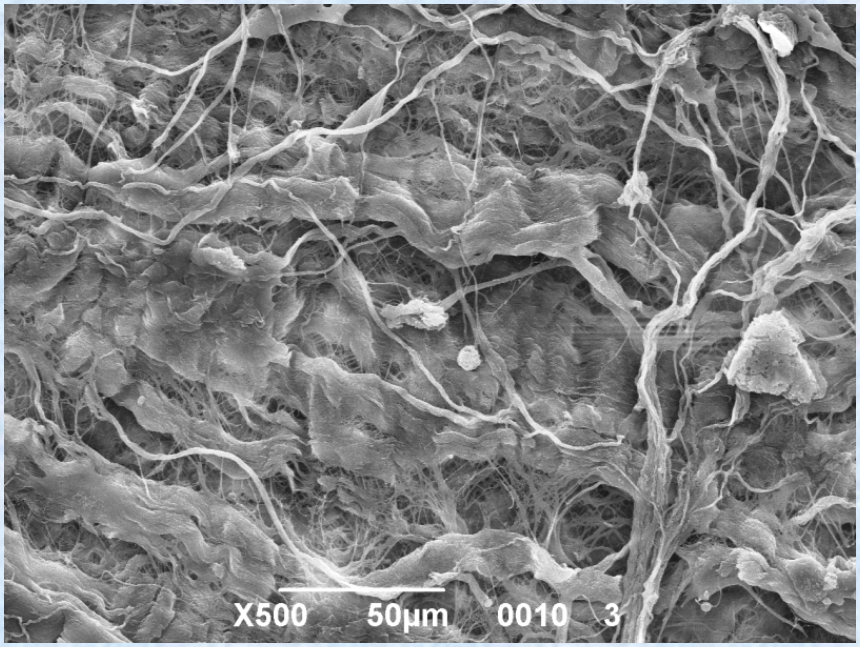
Letizia Ferroni Team Chiara Gardin

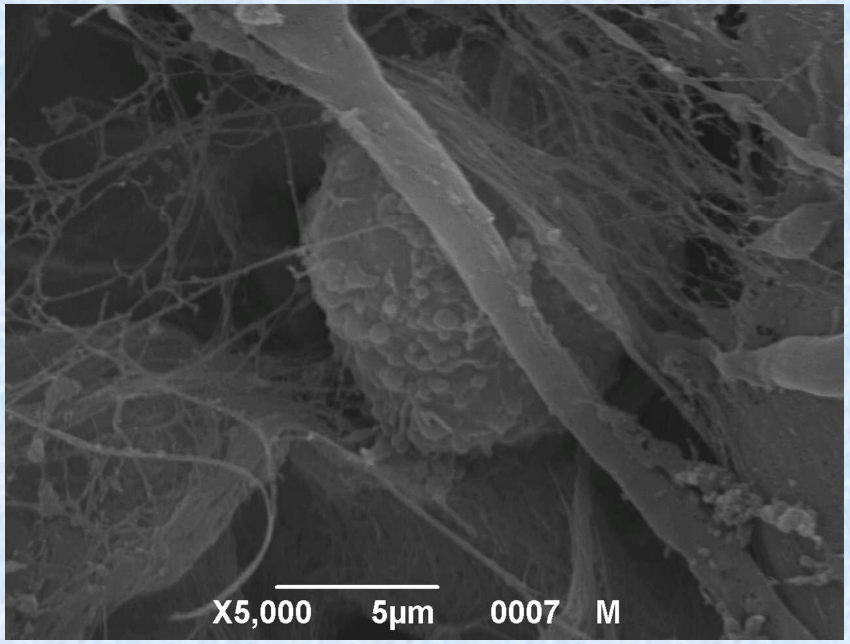
Research activity

interaction cells-biomaterials

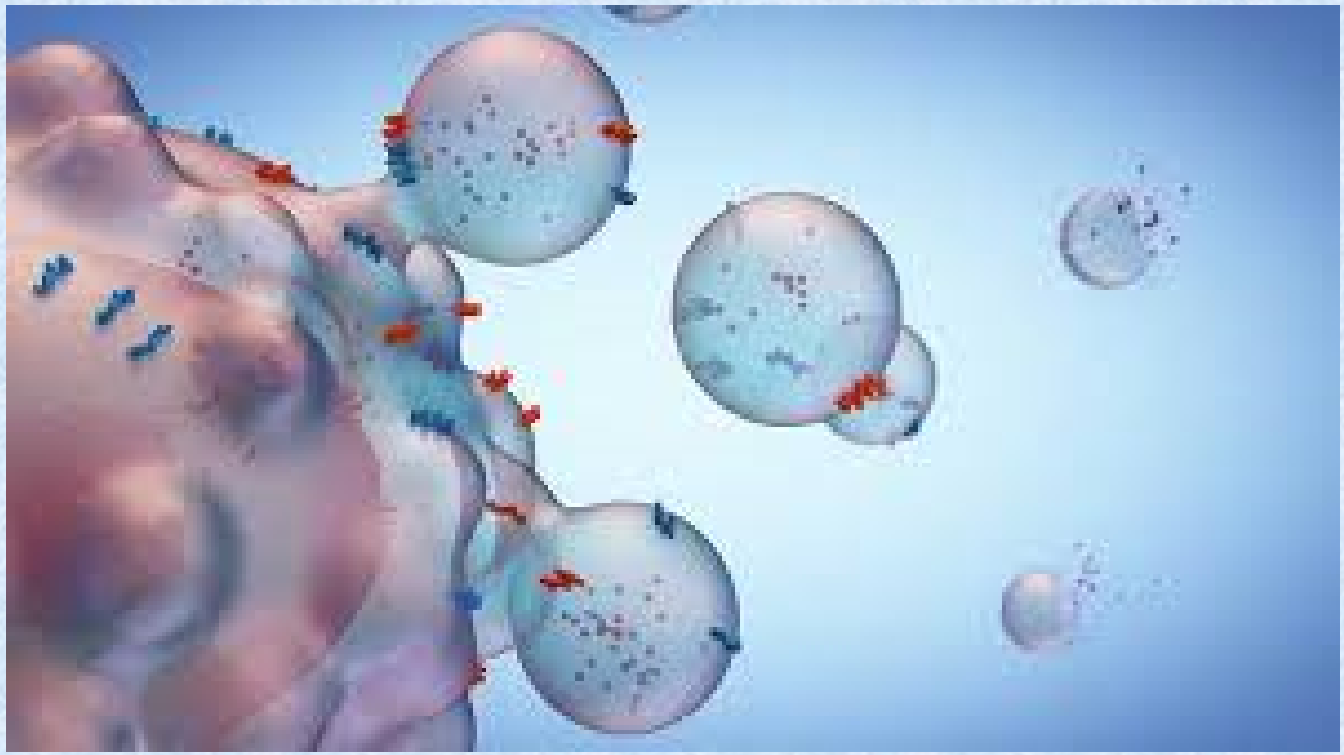
Cell advanced therapy

Physiology of stem cells





Extracellular vescicles



Regards exosomes we are able to

- isolate (from all cell types)

- quantified

- characterization in term of:
markers,
content,
function

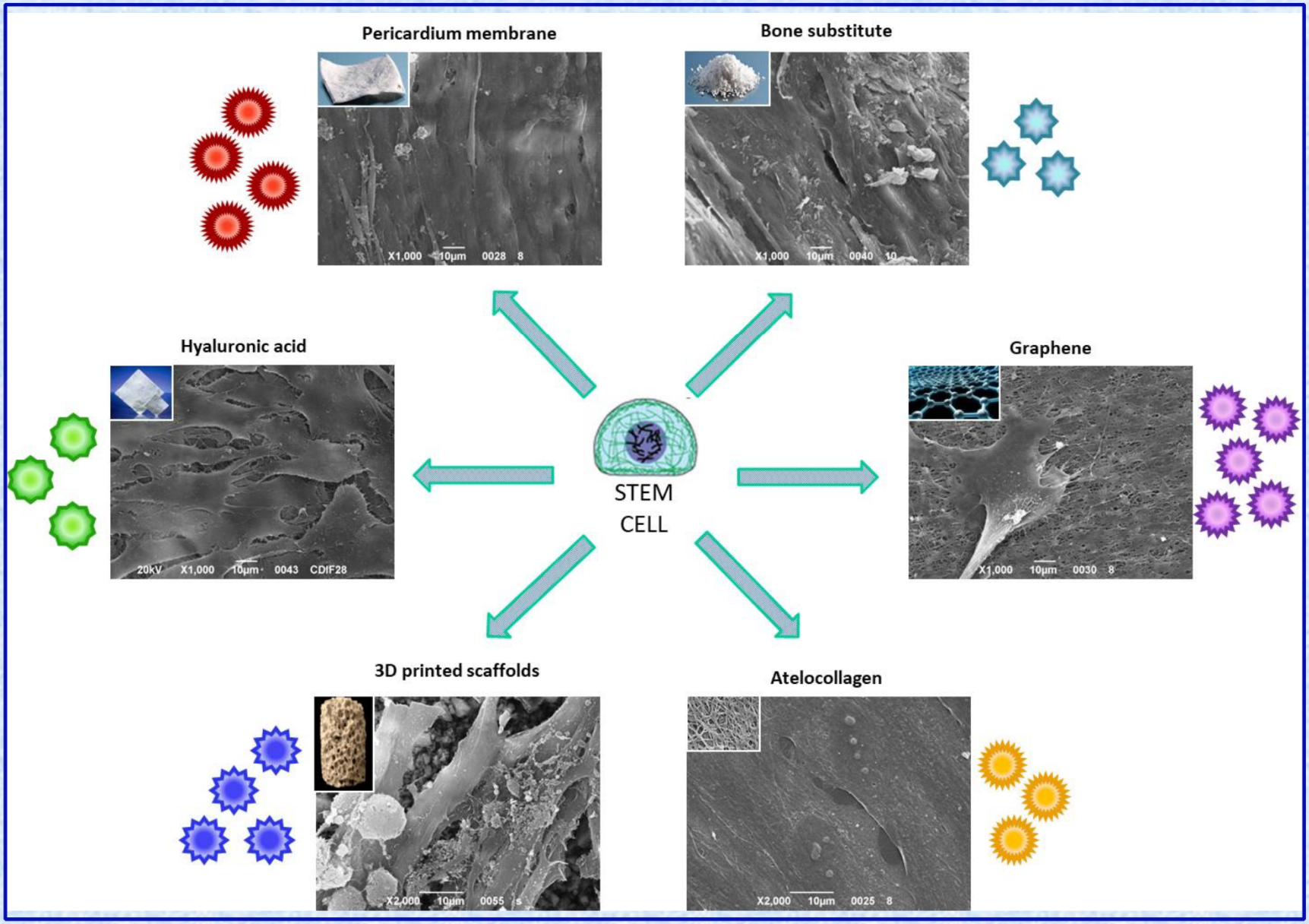
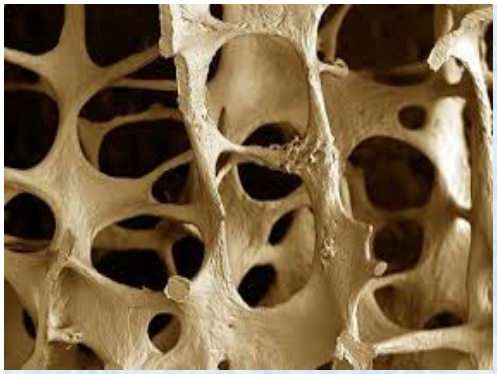
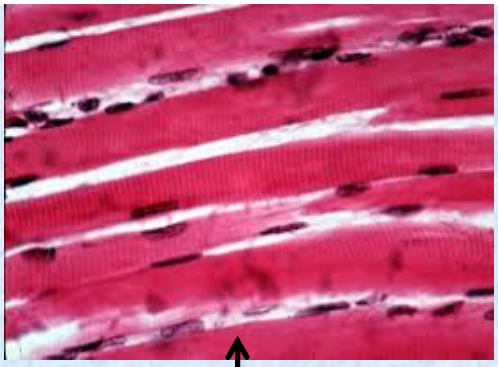
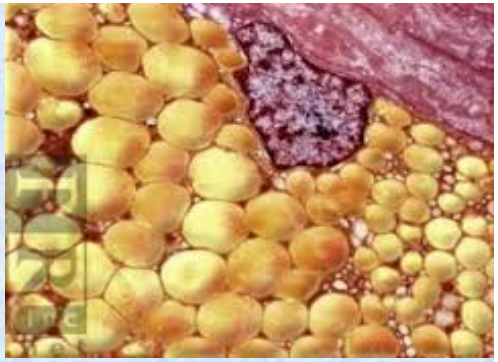
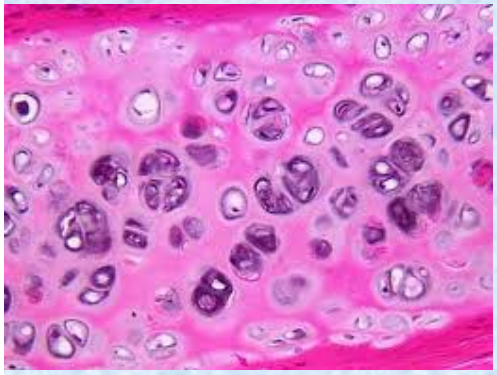
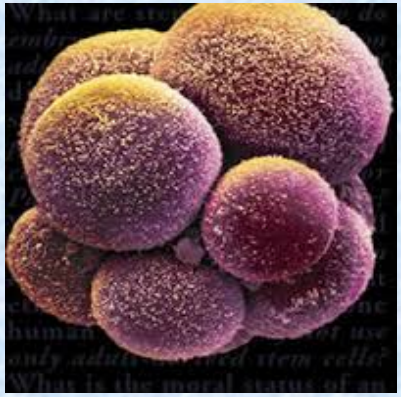
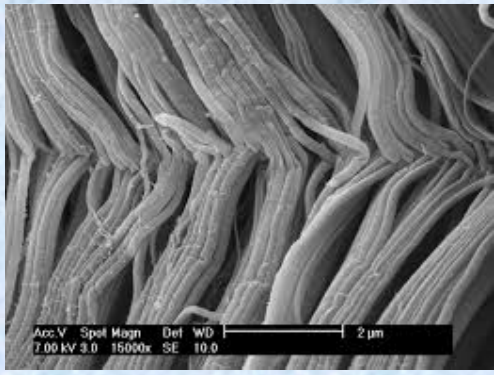
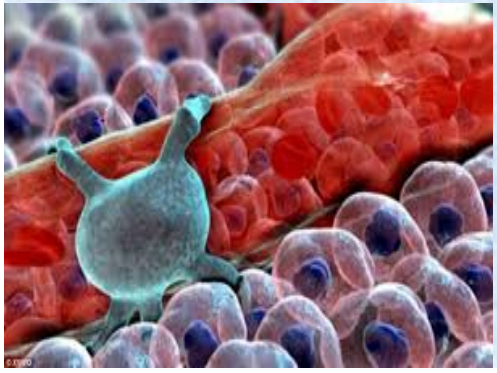
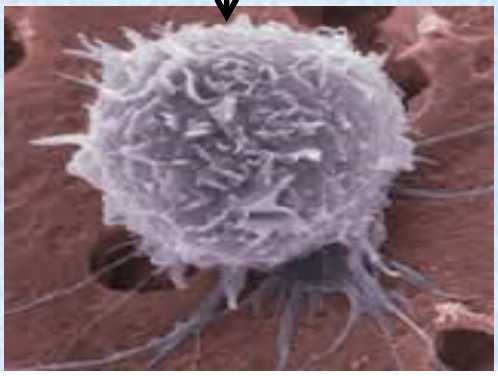


Figure 3. EXOs composition and quantity can change depending on the MSCs culture and substrates conditions .

Effect on commitment


EV effect on MSC migration:

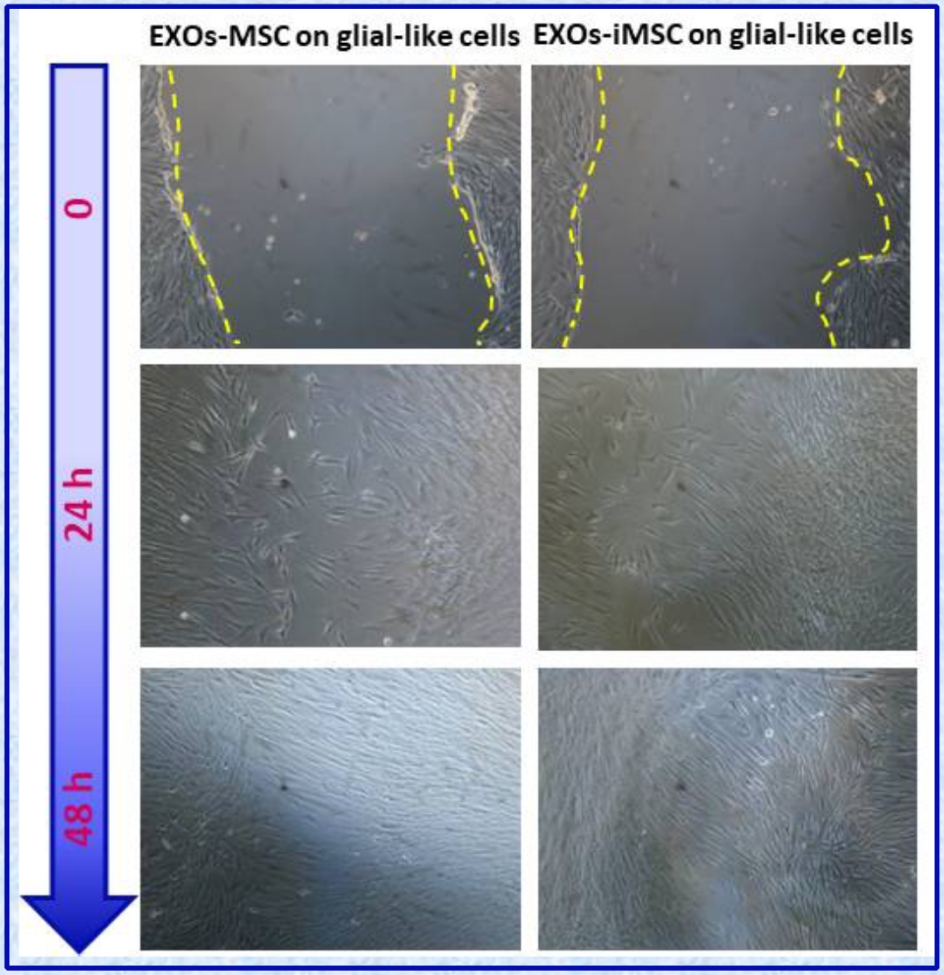


Figure 10. Representative images at different times of scratched glial-like cells exposed to EXOs-MSC.

Analyses of their activity on :

Immunimodulation

Mitochondria

Endoplasmatic Reticulum

Calcium Signalling