### TTO4IRCCS





Sistema Socio Sanitario



# STEM CELL EXTRACELLULAR VESICLES TO TURN OFF ISCHEMIC INFLAMMATION

WO2019/111198 WO2019/111197



#### **Applications:**

- Treatment or prevention of secondary damage effects on ischemic tissues.
- Treatment of acute or chronic neurodegenerative diseases with inflammatory component.



#### Key benefits:

- Protective/reparative effect correlated with significant tissue level reduction of apoptotic/inflammatory TNF $\alpha$  (4-fold) and INF $\gamma$  (3-fold).
- Significant necrosis damage reduction.



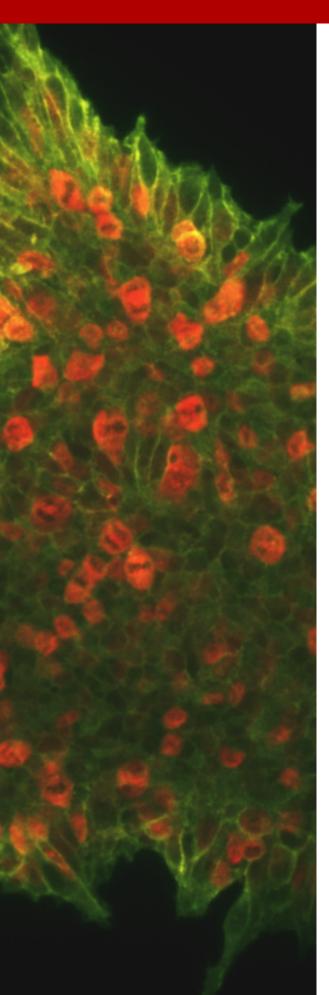
#### Offer:

- Licensing out.
- Co-Development.

## TTO4IRCCS

#### LICENSING OPPORTUNITIES





# STEM CELL EXTRACELLULAR VESICLES TO TURN OFF ISCHEMIC INFLAMMATION

#### INVENTION

An innovative therapeutic solution developed with extracellular vesicles (EV) for treatment of secondary damage effects on ischemic tissues.

#### BACKGROUND

Disorders characterized by ischemia/reperfusion, such as myocardial infarction, stroke, and peripheral vascular disease, continue to be among the most frequent causes of debilitating disease and death.

Currently, no broad and effective therapeutic approaches are available most of all due to the very short timeframe (3-6 hours) from stroke symptom onset in which a patient is eligible to receive the tissue plasminogen activator, the only thrombolytic agent able to reduce the secondary effects of ischemia.

#### **TECHNOLOGY**

The inventors select and isolate human mesenchymal stem cells, renowned for their beneficial effects in pathological contexts of acute damage.

After a reprogramming process (repCBMSC), they identified a specific set of miRNA able to modulate inflammation in both parental CBMSC-EV and repCBMSC-EV.

This set of miRNA was successfully challenged in a model of brain ischemia, where necrosis was significantly reduced.

#### **INVENTORS**

Lazzari Lorenza, Barilani Mario.

#### INTELLECTUAL PROPERTY RIGHTS

Patent granted in Italy.

Patent pending in Europe, USA, Australia.

#### **OFFER**

Licensing out & co-development.

#### CONTACT

Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico ufficiobrevetti@policlinico.mi.it http://www.policlinico.mi.it/tto