

STEM CELL EXTRACELLULAR VESICLES TO TURN OFF ISCHEMIC INFLAMMATION

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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.

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

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INTELLECTUAL PROPERTY RIGHTS

Patent granted in Italy.

Patent pending in Europe, USA, Australia.

OFFER

Licensing out & co-development.

CONTACT

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