

## THE MESENCHYMAL STROMAL CELLS INCREASED THE ACTIVITY ON GLIOBLASTOMA OF A NEW DELIVERED ANTICANCER PLATINUM-DRUG

Coffetti Giulia<sup>2</sup>, Valentina Coccè<sup>1</sup>, Eleonora Martegani<sup>1</sup>, Luisa Doneda<sup>1</sup>, Isabella Rimoldi<sup>2</sup>, Giorgio Facchetti<sup>2</sup>, Giulio Alessandri<sup>1</sup>, Emilio Ciusani<sup>3</sup>, Francesco Cilurzo<sup>2</sup>, Silvia Franzè<sup>2</sup>, Francesca Paino<sup>1</sup>, Augusto Pessina<sup>1</sup>

<sup>1</sup>CRC StaMeTec, Department of Biomedical, Surgical and Dental Sciences, University of Milan, 20122 Milan, Italy.

<sup>2</sup>CRC StaMeTec, Department of Pharmaceutical Science, University of Milan, Via Mangiagalli 25, 20133 Milan, Italy.

<sup>3</sup>Laboratory of Clinical Pathology and Medical Genetics, Istituto Neurologico Fondazione C. Besta, Milan, Italy.

### OBJECTIVE

Glioblastoma multiforme (GBM) is nowadays the most aggressive tumor affecting brain in adults with a very poor prognosis due to limited therapies and systemic cytotoxicity. Among the different new drugs, recently has been reported the *in vitro* anti-glioma activity of a new cationic platinum(II) complex bearing 8-aminoquinoline as chelating ligand (Pt-8AQ). The purpose of this research was to confirm the activity of Pt-8AQ on U87-GM spheroid and to investigate the ability of Mesenchymal Stromal Cells (MSCs) to incorporate and release Pt-8AQ in active form.

### Materials AND methods

Dosages of 20  $\mu\text{M}$  were employed for the inhibition of the spheroid formation and 5  $\mu\text{M}$  of the drug, added to pre-formed spheroids, produced a significant dramatic degradation after 96 h of treatment. The MSCs were primed with Pt-8AQ in optimized conditions and the secretome was analyzed for the activity of Pt-8AQ and the presence of Evs.

### RESULTS

We confirm our previous results in traditional 2D cell culture by demonstrating the anticancer activity of Pt-8AQ against U87-GM cells grown as 3D multicellular spheroids. The principal results showed that