

Aurélie Tchoghandjian is a post-doc at the Institute of Neurophysiopathology (INP, AMU / CNRS 7051, Marseille). Since her PhD (Pr Figarella-Branger Team, CRO2, Marseille), she has worked on glioblastoma, the most aggressive brain tumor in adult. She became specialized in glioblastoma stem cells during her PhD and she discovered that A2B5⁺ cells sorted from human glioblastomas harbor stem-like cell properties¹. In



comparison to normal A2B5⁺ cells from human fetal brains, glioblastoma A2B5⁺ cells are able to proliferate and self-renew indefinitely, to differentiate in all the tumor cell types and to initiate a tumor when implanted in mice brains. During her first post-doc (Dr Rougon Team, IBDM, Marseille), she characterized at the molecular level these A2B5⁺ cells and she proposed a molecular classification of glioblastomas related to the tumor topography². Then, she integrated the lab of Pr Fulda (Frankfurt University, Germany) where she worked on the non-apoptotic role of inhibitor of apoptosis proteins (IAPs) on glioblastoma stem-like cells. She showed that IAPs inhibition by their pharmacological antagonists, Smac mimetics, led to glioblastoma stem-like cells differentiation by activating NF-pathway³.

Since 2013, she has worked in the team of Pr Figarella-Branger (team GliOME, INP, Marseille) and she has mainly focused on glioblastoma's microenvironment. She develops an innovative and original therapeutic strategy called "pan-cellular" strategy which consists in the discovery and use of drugs targeting all the cell types within glioblastoma. She is first interested by deciphering the role of Smac mimetics in tumor growth⁴. To this end, she is using a multicolor mouse in which all the cells of interest, including tumor-associated macrophages (TAMs) and tumor cells, are fluorescents. Thanks to bi-photonic microscopy (Dr Debarbieux, Imapath team, INT/CERIMED, Marseille), tumor growth, cellular composition, cellular interactions and phagocytosis can be followed throughout tumor growth in a same living mouse. This project was rewarded this year by the "Emergence" grant of the Cancéropôle PACA. Following the getting of this grant, she was classified 2nd by the section 28 of the CNRS opening doors for a recruitment as a CNRS researcher this year.

¹ **Tchoghandjian A**, Baeza N, Colin C, Cayre M, Metellus P, Beclin C, Ouafik L and Figarella-Branger D: A2B5 cells from human glioblastoma have cancer stem cell properties. 2010 Brain Pathol. Jan;20(1):211-21.

² **Tchoghandjian A**, Baeza-Kallee N, Beclin C, Metellus P, Colin C, Ducray F, Adélaïde J, Rougon G and Figarella-Branger: Cortical and Subventricular Zone Glioblastoma-Derived Stem-Like Cells Display Different Molecular Profiles and Differential In Vitro and In Vivo Properties. 2012 Ann Surg Oncol. Jul; 19 Suppl 3:S608-19.

³ **Tchoghandjian A**, Jennewein C, Eckhardt I, Momma S, Figarella-Branger D and Fulda S: Smac mimetic promotes glioblastoma cancer stem-like cell differentiation by activating NF-κB. Cell Death Differ. May;21(5):735-47.

⁴ **Tchoghandjian A**, Soubéran A, Tabouret E, Colin C, Denicolaï Emilie, Mathieu Sylvie, El-Battari Assou, Baeza Nathalie and Figarella-Branger Dominique: Inhibitor of apoptosis protein expression in glioblastomas and their in vitro and in vivo targeting by SMAC mimetic GDC-0152. 2016 Cell Death Dis. Aug 4;7(8):e2325.