



Department
Drug Science
and Technology



UNIVERSITÀ
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PhD proposal in co-supervision between the GlioME team at Aix-Marseille University and the Department of Drug Science and Technology at University of Torino: application for the thesis scholarship of the Institute of Cancer and Immunology

Local treatment targeting post-surgical immune microenvironment to avoid glioblastoma recurrence

Summary of the PhD proposal

Glioblastoma (GBM) is an incurable primary brain tumor. Most GBM patients undergo surgery and chemoradiation, but tumors always relapse and recurrences arise within centimeters from the surgical margins. The recurrences are very aggressive probably due to the setup of a chronic inflammatory response. Our **hypothesis** is that the tailored post-surgical delivery of drugs able to kill residual tumor cells and reverse the pro-tumorigenic response mediated by immune cells in the post-surgical microenvironment (SME) could inhibit GBM recurrences. We have identified immune cellular targets that are increased in relapsed tumors and selected chemical inhibitors to target these immune cells and the residual cancer cells. Local treatment has the benefit to limit systemic secondary effects and increase the dose of drugs delivered at the target site.

The **aim** of the PhD thesis is to select appropriate drug combinations and rationally develop local treatments tailored to fit in the surgical cavity to target the SME immune cells responsible for recurrence and the residual cancer cells.

This project will include ultrahigh content immunofluorescences, drug screening on patient-derived tumoroids as well as formulation and characterization of the local treatments.

This project is **multidisciplinary** aiming at connecting cancer research, immunology and drug delivery towards the development of safer and more effective treatments for glioblastoma patients. This project will be developed between two laboratories with complementary expertise in cancer biology and drug development: the GlioME team (Institute of Neuro-Physiopathology, Aix-Marseille University, France) and the Department of Drug Science and Technology of the University of Torino (Italy).

The student will need to apply to the Institut and cancer Immunology grant.

Application before the 1st of may

Contacts

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