



HR EXCELLENCE IN RESEARCH

PhD proposal : Call for application for a PhD funding from “la Ligue contre le Cancer” (36 months).

Host Laboratory: UMR CNRS 7025 Génie Enzymatique et Cellulaire (<http://www.umr7025-gec.fr/>) – Université de technologie de Compiègne - FRANCE

Subject: Validation of an aptamer molecule directed against STAT5 proteins for diagnosis and treatment of Chronic Myeloid Leukemia at risk of recurrence.

Scientific area and goals

Cell proliferation and/or cell death are governed by extracellular signals through cytokines. These signals are then spread into the cells towards their nucleus, where proliferation and cell death are triggered by transcription, via a series of cascade events (among which phosphorylations) that leads to activation signals.

In the case of leukemia, the cell is constitutively activated. The leading causes of this activation are mainly mutations on oncogenic proteins. STAT5 proteins are one of the target of oncogenic proteins and have been identified as the pivot of the malignant transformation.

Imatinib mesylate (Gleevec®), a tyrosine kinase inhibitor is used as the first line treatment of Chronic Myeloid Leukemia (CML) for its antiproliferative action. Gleevec® gives adequate responses for 60% of the treated patients and intolerance to the drug for 20%. Moreover, 20% patients experience either a treatment resistance or a post-treatment recurrence. The reasons for resistance or/and recurrence are numerous but their common point is a high expression and activation level of the STAT5 proteins that is found *a posteriori*.

The goal of the proposed thesis project is to implement a patented molecule inhibiting STAT5 (1) in a diagnosis system that may be used prior to first line treatments, thereby enabling the prediction of resistance/recurrence and (2) in CML therapy to supplement usual treatments.

Skills

The applicant must hold an MSc degree (or equivalent) in biochemistry and cell biology and must be trained in conventional techniques related to these disciplines. An interest for oncology must be reported in the application file. The applicant must be capable of working as a team and of transferring her/his knowledge and results in English (B2 level is required).

Application file

The application file must contain a resume, a cover letter and contact details of 2 referent persons.

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