MATWIN
MATURATION & ACCELERATING TRANSLATION **WITH INDUSTRY**

TECHNOLOGY OFFER

SUPPORTING INNOVATION AND TECHNOLOGY TRANSFER IN ONCOLOGY

LymphGly
Theranostic of non-Hodgkin B lymphomas

CONTEXT & BACKGROUND

The incorporation of anti-CD20 (rituximab) coupled with chemotherapy **(R-CHOP**) in the management of non-Hodgkin lymphoma has largely improved the response rate and overall survival of patients. However, 30-40% of treated diffuse large B cell lymphoma (DLBCL) patients are refractory or will relapse. In addition when patients are refractory to R-CHOP treatment, therapeutic options are very limited. Using a cohort of 414 patients analyzed by affymetrix and a set of 42 DLBCL patients analyzed by automated IHC, we demonstrated that a specific gene represents a theranostic factor for NH lymphoma. We showed that its levels of expression allow a precise prediction of the patient's response to anti-CD20 based therapies (patent PCT/EP2015/054209).
Very importantly, we observed using primary murin lymphoma models and patient samples that the levels of expression of this protein also very strictly predict the metabolic status of the patients (EP15306530.5). Indeed, cells expressing low levels of this protein are more dependent on the mitochondrial pathway to produce their energy and we demonstrated that they are therefore more sensitive to mitochondrial inhibitors.
In conclusion, we identify a way to predict if patients will be less responsive to anti-CD20 therapies but will be more likely to respond to mitochondrial inhibitors. This discovery may have implications to maximizing the clinical utility of metabolic inhibitors.

INNOVATIVE COMPONENT & TECHNOLOGY

Predictive marker to anti-CD20 bases therapy
Predictive marker to the response to metabolic inhibitors

OBJECTIVES

The early results of clinical trials using metabolic inhibitors on a variety of tumors types gave mixt results so far with no
apparent explanation. We propose that measuring the expression of this protein at the diagnosis is a unique enrolment
biomarker able to identify patients with the greatest potential response to metabolic inhibitors

DEVELOPMENT & MATURATION STAGE

Need an industrial company for potential development

SCOPE

Identify patients that will not respond to anti-CD20 based therapy and to identify patients that will benefit the most to metabolic inhibitors

KEYWORDS

Metabolism, metabolic inhibitors, anti-CD20, lymphoma.

TARGET POPULATION

Companies developing metabolic inhibitors to be used in oncology.
Companies developing prognosis tests

INTELLECTUAL PROPERTY & PATIENT CO-OWNER(S)

PCT/EP2015/054209 – INSERM transfert – APHP-Université de Nice
EP15306530.5 – INSERM transfert – APHP-Université de Nice

TARGET PROFILE

Several pharmaceutical companies are developing metabolic inhibitors that will be tested in the treatment of divers human cancers. A main interest for those would be to predict from the diagnosis which patients will be the most likely to respond to their compounds. We have identified such marker.

STRENGHTS & COMPETITIVE ADVANTAGES

To the best of our knowledge this marker is unique. There are no predictive markers of the response to anti-CD20 based therapies. In addition, the analysis of the metabolic status of a patient requires extensive genomic and proteomic analysis, 2 which are not compatible with clinical investigation. Until our discovery we were not able to predict if a patient will likely respond to metabolic inhibitors.

INDUSTRIAL APPLICATIONS & OPPORTUNITIES

This discovery will be interesting for Companies developing:
- new anti-CD20 antibodies
- Alternative therapies for patients presenting a resistance to R-CHOP
- IHC or genomic screening tests
- Metabolic inhibitor in oncology (not only for NHL)

The estimated market size for non-hodgkin lymphoma is 100 M€.
Co-development or licensing opportunities will be considered.

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