



LEVURE ET NARP

USING YEAST TO MODEL ATP SYNTHASE DEFICIENCY ASSOCIATED WITH HUMAN PATHOLOGIES: MOLECULAR MECHANISMS IN THE SEARCH FOR DRUG MOLECULES

More than 30% of the genes responsible for genetic disorders in humans have an equivalent in yeast (*Saccharomyces cerevisiae*). As well as retaining most of yeast's cellular mechanisms, mammals also possess a proportion of its molecular players. As a result, yeast can be used for modelling and studying human pathologies and for biomedical research more generally.

Spin-offs and future developments

The project progressed as predicted. It achieved its principal objectives, notably that of constructing and analysing yeast models of human diseases associated with ATP synthase deficiency and, from those models, isolating the first drugs to display particularly interesting properties both in the yeast itself and in human cells. Interactions between the research teams could not have been better throughout the project. They generated genuine synergy and came together for regular working meetings.

In the course of the project, the teams began collaborating with L. Steinmeitz (EMBL, Heidelberg) and M. Rojo (IBGC, Bordeaux). This will lead to greater advances in understanding the suppressor mechanisms brought into play by the drugs. Given the extremely encouraging results to date, the teams led by M. Blondel and J.-P. di Rago are keen to pursue this work. New joint applications for funding are envisaged to enable the project to be pursued and extended to other mitochondrial diseases in the years ahead.

- 5 papers published
- 4 papers accepted for publication
- 1 patent pending

Partners

Research centers

CNRS IBGC Bordeaux 2, Bordeaux [\[Project Developer\]](#)
Station Biologique de Roscoff, UPS 2682/
Inserm U613, Roscoff

Funder

- Agence Nationale de la Recherche

Labelisation

2005

Overall budget

390 K€