An innovative blood test to fight medical wandering at the earliest

METAglut1™

Because time matters...
It is a regulated health product that bears the CE mark.

METAglut1™ : the first test for the daily practice developed from the METAdiag platform.

METAdiag project has received funding from the European Union’s Horizon 2020 research and innovation program under grant agreement No 806038.

The test is not approved for commercialization in the USA yet
OUR MISSION
Save lives and promote a higher quality of life by detecting cells with abnormal energy profiles, which often play a key role in human diseases
We are made up of cells that require nutrients for their survival and function.

While metabolism is life’s engine, nutrients are its fuel.
Nutrient transporters are key players of cell energetic needs

Unique virus-derived ligands of nutrient transporters...

... provide a powerful mean to characterize cell energy supply

Marc Sitbon, PhD
OUR TECHNOLOGY
deciphers how cells use key nutrients to fuel their metabolism. We are developing a unique, powerful In-Vitro Diagnostic (IVD) platform able to detect and characterize single cell energetics to establish a timely and precise diagnosis, and actionable therapeutic monitoring.

Our innovation stems from research in CNRS leading academic labs, in close collaboration with health providers.

We have financial support from the European Commission and Bpifrance, and have partnered with Laboratoire Cerba, the European leader in specialized clinical pathology.
First publication on retrospective patients – Training set

GLUT1DS patients
\( n=30 \)

Disease controls
\( n=18 \)

Healthy controls
\( n=346 \)

GLUT1 expression level at the RBC surface expressed in % of mean of healthy controls
(Mean = 100 ; SD = 7)
GLUT1 expression on a given sample is expressed in % of change of GLUT1 compared to the mean of the non-disease general population.

A low level of GLUT1 expression at the surface of red blood cells which falls within the range observed in confirmed GLUT1-DS patients, is compatible with the GLUT1 deficiency syndrome.

Interpretation threshold is set at -20%, ie. more than 20% decrease in GLUT1 expression on red cells is compatible with GLUT1-DS.

Results published in Gras et al, Ann Neurol 2017
- Sensitivity = 77%
- Specificity >99%
A large validation study ongoing in more than 35 hospitals in France

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Investigation centers

1st patient tested
Open centers
Opening to be done
Study design

NCT03722212  www.clinicaltrials.gov
Recruitment to date

# participating patients

- Retrospective
- Prospective

Age at participation

Newborn: 15%
Children: 56%
Adolescent: 13%
Adults: 16%

Clinical phenotypes

30% Classic
65% Others

Development plan

Where do we stand

- **juillet 2014**: 1er patient tested
- **mai 2015**: Start of the feasibility study
- **juillet 2016**: Distribution deal with Cerba Lab, the European leader in specialized clinical pathology
- **février-juillet 2017**: Scientific publication
- **déc. 2017**: Recipient of the SME Instrument H2020 grant for validation and market access
- **mars 2018**: Reimbursement by exemption secured in France
- **sept. 2018**: Start of a large validation study across France
- **nov. 2018**: 1er meeting with FDA for market authorization preparation in the US
- **2019**: Start of an international implementation

**Glut1 Deficiency Foundation**

**July 2019 Conference**

**11-12 2019**

**Washington, D.C.**

**Meet, Share, Learn**
Development plan

Ongoing work to make the test available in EU countries

With Pr. Helen Cross

With Pr. Joerg Klepper

With Dr. Angeles Garcia-Cazzorla

With Pr. Pierangelo Veggiotti
An innovative test developed with and used by a growing collaborative network

### Academic research institutes
- CNRS
- IGMM
- CRB

### Hospitals
- ASSISTANCE PUBLIQUE HÔPITAUX DE PARIS
- And +40 hospitals across France

### Industrial partners
- Cerba HealthCare

### Public funding
- bpi france

### Patients associations
- Paris Biotech Santé

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for their medical expertise and support to validate the test and their help at making it available to patients worldwide
Thank you