Technology Offer

Innovative genetic engineering patented from design to production of molecular tools

Summary

A French startup, based in Lille who develops an innovative technology on molecular biology, seeks research or technical cooperation with research laboratories, CROs and industrial groups that develop genetic engineering approaches to participate in R&D project. This innovative technology, already patented, removes a large number of constraints inherent to the classical molecular biology: - Reducing costs and delays - Offering tailor made products that exactly fit the customer's needs.

Expiration Date 27 April 2018
Reference TOFR20170321002
Profile link

Details

Description

The French start up develops an innovative technology already patented on molecular biology who removes principals constraints, reducing costs and delays and offering a tailor made products.

The start up realizes DNA molecules tailored to exactly meet the experimental needs of their customers. In a market dominated by the sale of reagents and consumables, this service consists on a true scientific partnership.
The goal is to allow researchers to simultaneously test many possibilities and identify the best solution for their project. The service can be applied both at the conceptual level (design of molecules) and at a material level (production of molecules).
This offer is based on the use of a method of assembling DNA fragments that the company invented and then optimized in a research laboratory.
This process allows them to create molecules that are more complex and more efficient than the use of existing technologies.
The company also streamlined the design and production activities by developing a dedicated software integrating both their scientific approach, their technical know-how and their logistics management. The same tool will also be used to manage interactions with customers in the form of a virtual molecular biology laboratory available online.

The French north start up seeks to collaborate in R&D projects requiring expertise in genetic engineering (contributed by e-Zyvec), in the fields of biology in the broad sense, basic research, and development of medicines or systems of biological studies, agro-food, bio-materials ….

Advantages and Innovations

For the customer, this innovative technology is the opportunity to get rid of a large number of constraints inherent to the classical molecular biology:

- Reducing costs and delays
- Offering tailor made products that exactly fit the customer's needs.

In this way, the customers do no longer have to manage the technological locks inherent in one or the other commonly used assembly methods, they no longer have the obligation to choose from suppliers pre-existing intermediate tools or to modify them to satisfy the requirements of their work, they no longer need to manage a stock of many versions of reagents and kits dedicated to assembling DNA molecules. They can mobilize their time for experimentation using vectors rather than the often tedious creation of these tools.

As the team is composed of scientists who have worked in academic and translational research, the company is extremely competent to understand the needs of clients and translate them into individualized specifications.
The molecules provided are compatible with all usual uses of DNA vectors, for example:
- genome editing (RNA-guided DNA endonuclease associated with the Clustered Regularly Interspaced Short Palindromic Repeats type II adaptive immunity system in Streptococcus pyogenes, among other bacteria.),
- recombinant proteins (antibodies),
- multicistronic expression,
- etc.

Stage of Development

Already on the market

IPR Status

Patents granted

Profile Origin

Other

Keywords

Technology

06002002	Cellular and Molecular Biology
06002005	Genetic Engineering
06002009	Molecular design
06003002	Gene Expression, Proteome Research
06003003	Population genetics

Market

04006	Cellular and Molecular Biology
04008	Genetic Engineering
04011	Molecular design
04015	Gene Expression, Proteome Research
04016	Population genetics

NACE

Q.86.9.0	Other human health activities

Open for EOI : Yes

Client

Type and Size of Organisation Behind the Profile

Other

Year Established

2016

Turnover

<1M

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
French

Client Country

France

Partner Sought

Type and Role of Partner Sought

To biologists from academic laboratories, CROs, contract research companies or Pharmaceutical and Agro-alimentary groups and others industrial groups that develop genetic engineering approaches or the same in the fields of biology: basic research, development of medicines or systems of biological studies, agro-food, bio-material who requires expertise in genetic engineering to participate in R&D project

Type and Size of Partner Sought

SME 11-50,University,Inventor,R&D Institution,SME <10,>500 MNE,251-500,SME 51-250,>500

Type of Partnership Considered

Technical cooperation agreement
Research cooperation agreement

Technology Offer

Novel therapeutics for metachromatic leukodystrophy (MLD).

Summary

A German university has developed two complementary approaches for the treatment of metachromatic leukodystrophy (MLD). These approaches surpass the present treatments, which cause significant side-effects for the patients. The inventors offer a license and a technical cooperation agreement.

Expiration Date	12 May 2018
Reference	TODE20170413001
Profile link	

Details

Description

Metachromatic leukodystrophy (MLD) is a genetic lysosomal accumulation disease caused by the deficiency of the enzymatic activity of arylsulfatase A (ASA). This enzyme hydrolyzes 3-O-sulfogalactosyl ceramide (sulfatide) to galactosylceramide and sulfate. Sulfatide is a sphingolipid of the myelin sheath of axons and thus important for nerve cell function. However, impaired lysosomal degradation of sulfatide by a reduction or loss of ASA activity leads to an accumulation of this sphingolipid, which results in progressive demyelination. Consequently, the patients show increasing neurological deficits and eventually die.

A German university developed two novel and complementary approaches for the treatment of MLD: The first approach is based on the natural products Epicoccolid B and Epipyrone, which are derived from the mold fungus Epicoccum nigrum. These compounds inhibit the cerebroside-sulfotransferase, which is an enzyme that generates sulfatide. Thereby, the sulfatide concentration is lowered.

In addition (second approach) the researchers have exchanged certain amino acids of human ASA resulting in a much higher enzymatic activity. Previous clinical studies have demonstrated the feasibility of enzyme compensation therapy for treating MLD. However, it became clear that large amounts of enzyme need to be administered thereby potentially causing significant side-effects. These problems are overcome by the present approach.

This offer addresses partners from the biotechnological and pharmaceutical sector who wish to integrate this know-how into their range of products. The university offers a license and technical cooperation agreement. This would involve preclinical and clinical studies.

Advantages and Innovations

With regard to current treatments this invention is reducing side-effects for the patients. It is a novel and complementary approach. The researchers demonstrated proof of concept.

Stage of Development

Field tested/evaluated

Comments Regarding Stage of Development

The researchers have generated mouse models for MLD and have validated efficacy of their therapeutics.

IPR Status

Patent(s) applied for but not yet granted

Comment Regarding IPR status

European patent priority applications have been field for both approaches.

Profile Origin

Private (in-house) research

Keywords

Technology

06001012	Medical Research
06001014	Neurology, Brain Research
06001015	Pharmaceutical Products / Drugs
06002	Biology / Biotechnology
06002003	Enzyme Technology

Market

04007	Enzymology/Protein Engineering/Fermentation
05007002	Pharmaceuticals/fine chemicals

NACE

M.72.1.9	Other research and experimental development on natural sciences and engineering

Open for EOI : Yes

Dissemination

Send to Sector Group

Healthcare

Client

Type and Size of Organisation Behind the Profile

University

Year Established

0

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
German

Client Country

Germany

Partner Sought

Type and Role of Partner Sought

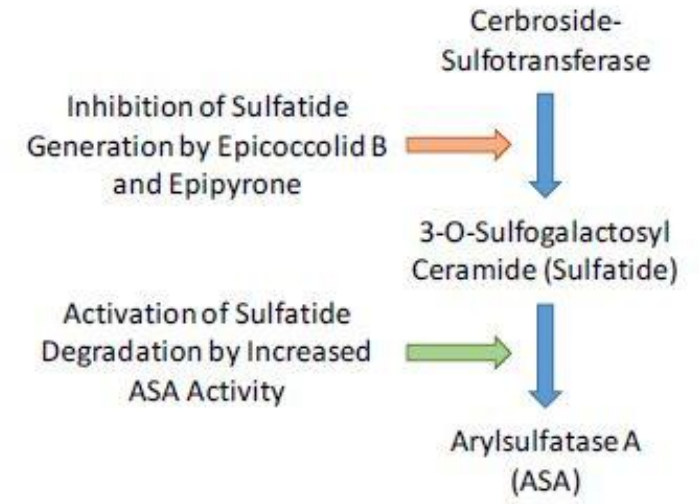
The invented treatment is offered for license agreement as well as technical cooperation agreement for further development. This offer addresses partners from the biotechnological and pharmaceutical sector who wish to integrate this know-how into their range of products. To use this invention it has to be further developed in form of preclinical and clinical studies.

Type of Partnership Considered

License agreement
Technical cooperation agreement

Attachments

mld therapeutics.jpg



Schematic overview of the sulfatide metabolism and mode of action of the novel MLD therapeutics