

New therapeutic approach in a multiplicity of neurodegenerative and autoinflammatory pathologies

Summary

Profile type	Company's country	POD reference
Technology offer	Italy	TOIT20220704015
Profile status	Type of partnership	Targeted countries
PUBLISHED	Research and development cooperation agreement	• World
Contact Person	Term of validity	Last update
Luciana pescosolido	4/7/2022 4/7/2023	07/04/2022

General Information

Short summary

An Italian research group has developed new therapeutic approaches to neurodegenerative and autoinflammatory pathologies. The research group is interested in finding partners for developing the research targeting neurological diseases. Partners may be pharmaceutical companies, startup or other research groups interested in research collaborations, in technical or research cooperation agreements or joint future developments of a product.

Full description

Recent findings have highlighted the important role played by the dysregulated activation of the innate immune system in the onset and progression of several neurological and autoinflammatory diseases. Small organic molecules able to modulate the activation of the immune system have, therefore, a great potential in the identification of a therapeutic approach for a multiplicity of neurodegenerative and autoinflammatory pathologies. The inhibition of the caspase-1 enzyme may allow to modulate the release of proinflammatory cytokines deriving from the activation of the inflammasome, blocking the inflammatory process. To date, there are no caspase-1 inhibitors that can be used in the clinic. In fact, although numerous caspase-1 inhibitors have been synthesized, no inhibitor has passed the clinical trial, probably because of the covalent mechanism of action and the consequent unwanted off-target interactions. The Italian research group, in collaboration with a foreign University, is interested in finding possible partners with whom to further develop the technology through technical or research cooperation agreements or joint developments.

Advantages and innovations

The research result and patent related, claims a new class of molecules able to inhibit caspase-1 to modulate innate immune system and in inflammatory processes. The new molecules discovered present innovative characteristics, with respect to the molecules currently known, because of their non-covalent mechanism of action.

Stage of development

Lab tested

Sustainable Development goals

• **Goal 3: Good Health and Well-being**

IPR Status

IPR granted

Partner Sought

Expected role of the partner

Partners may have expertise in drug discovery and in particular in:

- in vitro and in vivo biological evaluation of small molecules
- cell based test for inflammatory pathologies
- animal model for inflammatory pathologies

Type of partnership

Research and development cooperation agreement

Type and size of the partner

- **R&D Institution**
- **Big company**
- **SME 11-49**
- **SME 50 - 249**
- **Other**

Dissemination

Technology keywords

- **06001014 - Neurology, Brain Research**
- **06002007 - In vitro Testing, Trials**
- **06001015 - Pharmaceutical Products / Drugs**
- **06002002 - Cellular and Molecular Biology**

Targeted countries

- **World**

Market keywords

- **04006 - Cellular and Molecular Biology**
- **05003005 - Drug delivery and other equipment**
- **05006 - Anatomy, Pathology, Immunology, Physiology**
- **04009 - In vitro Testing, Trials**
- **05001005 - Molecular diagnosis**

Sector groups involved