Inotrem and Roche Diagnostics sign a R&D collaboration agreement in the field of septic shock to develop a companion diagnostic test

Paris, November 10, 2017. Inotrem S.A., a biotechnology company specialized in the control of acute inflammatory syndromes, such as septic shock, today announced a R&D collaboration agreement with Roche Diagnostics to develop a companion diagnostic test using a soluble plasma circulating protein (sTREM-1) developed by Inotrem and the Roche proprietary Elecsys® platform. It is Roche Diagnostics' first collaboration agreement with a start up biotech company.

Under the terms of the agreement, Roche and Inotrem will work together to develop an *in vitro* robust prototype assay for quantitative measurement of soluble TREM-1 (sTREM-1) in plasma samples of septic shock patients. sTREM-1 is a marker of the activation of the TREM-1 immune amplification pathway and high sTREM-1 plasma concentrations have been shown to be associated to a negative outcome in septic shock patients. Measurement of sTREM-1 in blood could provide a valuable indicator for the diagnosis and outcome prediction of septic shock patients[1,2,3].

Inotrem is currently conducting a clinical Phase 2 trial in patients with septic shock to demonstrate the benefit of its lead compound, Motrem™ (LR12) in the treatment of septic shock[4]. The collaboration with Roche Diagnostics may lead to a companion diagnostic supporting the development of Motrem™.

"One of the main issues with septic shock is the heterogeneity of this patient population. This collaboration proposes to develop a test to allow a certain stratification of sepsis patients to ideally identify patients who are more likely to respond to Motrem treatment," said Jean-Jacques Garaud, CEO and co-founder of Inotrem. "It shows our shared willingness to accelerate the development of targeted therapeutic solutions for these patients."

The physiopathology of septic shock is characterized by an intense and excessive systemic inflammatory reaction in response to a serious infection[5]. Its consequences include the dysfunction of vital organs and major hemodynamic disorders that may prove fatal for patients. Activation of the TREM-1 pathway is recognized as a key factor contributing to septic shock[6].

"As a leader in in vitro diagnostics solutions[7], it is a great opportunity to participate to the opening of a new front in critical care medicine, particularly in an area known for its difficult and highly heterogeneous population in septic shock", shared Jean-Claude Gottraux, Head of Roche Diagnostics, Centralized and Point of Care Solutions. "We are particularly pleased as this is the first time Roche Diagnostics is collaborating with a start-up biotech company."

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About Inotrem

Inotrem S.A., is a biotechnology company specialized in the control of acute inflammatory syndromes, such as septic shock. The company has developed a new concept of immunomodulation to control unbalanced inflammatory responses. Focusing on targeted immunotherapy for acute inflammatory syndromes in the critical care setting, the company has been founded in 2013 by Dr. Jean-Jacques Garaud, a former head of research and early development at the Roche Group, Prof. Sébastien Gibot and Dr. Marc Derive. Inotrem's lead product candidate (LR12) opens new personalized treatment options in a number of therapeutic indications such as septic shock or myocardial infarction.
Inotrem is supported by leading European investors — Sofinnova Partners, Edmond de Rothschild Investment Partners, Biomed Invest and Inserm Transfert Initiative.
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About TREM-1 and LR12

Inotrem focuses on targeted immunotherapy for acute inflammatory syndromes in the critical care setting and has a significant expertise in the biology of TREM-1 receptor.
TREM-1 is an immunoreceptor expressed by innate immune cells. Upon activation, TREM-1 can directly amplify an inflammatory response. TREM-1 was initially characterized for its pathophysiological role during septic shock, and since, in other acute diseases such as ischaemia/reperfusion injury after myocardial infarction, haemorrhagic shock, ischaemia-reperfusion, pancreatitis and acute kidney injury. TREM-1 is one of the most upregulated pathways during the genomic storm observed in septic shock patients. Engagement of TREM-1 leads to a hyperactivated and exuberant inflammatory response which is responsible for the onset and progression from sepsis to septic shock. Currently, there is no specific causal treatment for septic shock, and previous attempts to develop treatments have failed.
LR12 is a synthetic peptide aiming at controlling the amplification loop of the inflammatory response by inhibiting the TREM-1 receptor. The therapeutic efficacy of LR12 is documented in several preclinical septic shock models in different species which have shown an appropriate inflammatory response, an improvement in hemodynamic parameters and survival rates.

References

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