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INNATE PHARMA ANNOUNCES PUBLICATION OF EXPLORE COVID-19 TRANSLATIONAL STUDY FINDINGS IN NATURE

New research suggests targeting C5a-C5aR1 axis could limit severe inflammatory response

Marseille, France, July 29, 2020, 11:30 AM CEST

Innate Pharma SA (Euronext Paris: IPH – ISIN: FR0010331421; Nasdaq: IPHA) (“**Innate**” or the “**Company**”) today announced the publication of a *Nature* paper entitled, “Association of COVID-19 inflammation with activation of the C5a-C5aR1 axis,” authored by Innate researchers in partnership with scientists from Hôpitaux Universitaires de Marseille AP-HM (La Timone and North Hospitals), Laveran Hospital, Aix Marseille University, the Centre d’Immunologie de Marseille-Luminy (Inserm, CNRS, AMU) and Marseille Immunopole/AP-HM immunoprofiling laboratory at La Timone Hospital.

This Marseille-based exploratory research taskforce, named EXPLORE COVID-19, analyzed immune cells in COVID-19 patients at different stages of the disease. The goal of the study was to gain translational insights to better understand the immune response in COVID-19 patients and identify potential targets to fight the viral infection.

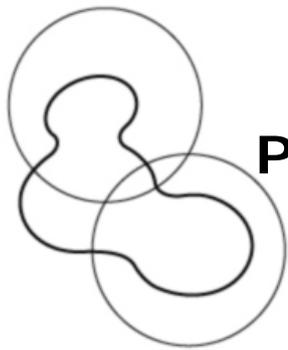
The study found that patients who progress towards severe COVID-19 disease, including those with severe pneumonia and acute respiratory distress syndrome (ARDS), exhibit an activation of the C5a/C5aR1 pathway. Specifically, researchers observed high levels of circulating C5a and over-activation of the C5a-dependent myeloid cell pathway, which is believed to contribute to inflammation in the lungs.

This research also focused on avdoralimab (IPH5401), a clinical-stage monoclonal antibody that blocks C5aR1 (CD88). Avdoralimab prevents C5a-induced myeloid cell recruitment and activation. Innate is currently investigating avdoralimab in oncology, which provided pharmacokinetic and safety data prior to investigation in COVID-19.

The findings published in *Nature* suggest that the C5a-C5aR1 axis blockade could be considered as a potential therapeutic strategy for severe respiratory disease associated with SARS-Cov-2 infection. The analysis found the C5a-C5aR1 axis blockade as a means of limiting myeloid cell infiltration at inflammatory sites and preventing the excessive lung inflammation associated with ARDS in COVID-19 patients.

“There is an urgent need to better understand COVID-19 disease progression and the associated complement cascade to help improve the prognosis of COVID-19 patients who present severe symptoms,” said Pr. Eric Vivier, PhD, Chief Scientific Officer at Innate Pharma and Professor at AP-HM, Aix-Marseille University and Centre d’Immunologie de Marseille-Luminy (Inserm/CNRS/AMU). “We are encouraged by this exploratory study, as we’re beginning to understand the impact of the immune response on the evolution of COVID-19 and pathways able to modulate this response.”

Based on findings from this study, the Company previously announced the launch of an investigator-sponsored trial named FORCE (FOR COVID-19 Elimination). This is a randomized, double-blind Phase II clinical trial to further explore avdoralimab in COVID-19 patients with severe pneumonia, which is currently ongoing.



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You can read the full publication in *Nature* [here](#).

About the EXPLORE COVID-19 study:

Researchers analyzed the immune response of COVID-19 patients with no or few symptoms, patients who require oxygen, and a group of severe patients who require prolonged mechanical ventilation. The study included 82 individuals: 10 healthy controls and 72 COVID-19 patients, including 10 patients presenting few symptoms, 34 patients with pneumonia, and 28 patients with ARDS.

Avdoralimab in cancer:

Avdoralimab is a therapeutic antibody that specifically binds and blocks C5a receptor 1 (C5aR1) expressed on myeloid cells, including monocytes, macrophages and neutrophils. It is currently in Phase I development in solid tumors, including hepatocellular carcinoma and non-small cell lung cancer.

Avdoralimab in COVID-19:

C5a has been implicated in the pathogenesis of ARDS by promoting a proinflammatory environment, through the attraction of myeloid cells (neutrophils, monocytes and macrophages) and the stimulation of their cytokines production. Avdoralimab blocks C5aR1 and has the potential to reduce the inflammatory response in the lungs.

About Innate Pharma:

Innate Pharma S.A. is a commercial stage oncology-focused biotech company dedicated to improving treatment and clinical outcomes for patients through therapeutic antibodies that harness the immune system to fight cancer.

Innate Pharma's commercial-stage product, Lumoxiti, in-licensed from AstraZeneca in the US, EU and Switzerland, was approved by the FDA in September 2018. Lumoxiti is a first-in class specialty oncology product for hairy cell leukemia. Innate Pharma's broad pipeline of antibodies includes several potentially first-in-class clinical and preclinical candidates in cancers with high unmet medical need.

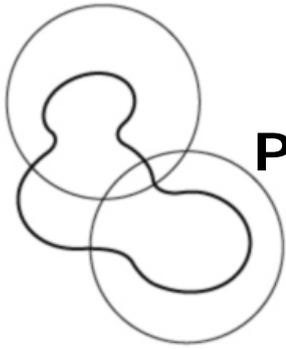
Innate Pharma has been a pioneer in the understanding of natural killer cell biology and has expanded its expertise in the tumor microenvironment and tumor-antigens, as well as antibody engineering. This innovative approach has resulted in a diversified proprietary portfolio and major alliances with leaders in the biopharmaceutical industry including Bristol-Myers Squibb, Novo Nordisk A/S, Sanofi, and a multi-products collaboration with AstraZeneca.

Based in Marseille, France, Innate Pharma is listed on Euronext Paris and Nasdaq in the US.

Learn more about Innate Pharma at www.innate-pharma.com

Information about Innate Pharma shares:

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This press release and the information contained herein do not constitute an offer to sell or a solicitation of an offer to buy or subscribe to shares in Innate Pharma in any country.

For additional information, please contact:

Investors

Innate Pharma

Tel.: +33 (0)4 30 30 30 30

investors@innate-pharma.com

Media

Innate Pharma

Tracy Rossin (Global/US)

Tel.: +1 240 801 0076

Tracy.Rossin@innate-pharma.com

ATCG Press

Marie Puvieux (France)

Tel.: +33 (0)9 81 87 46 72

innate-pharma@atcg-partners.com