Safety Data for Lirilumab in Combination with Nivolumab or Ipilimumab Announced at ESMO 2016 Congress

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The combination of lirilumab and nivolumab in a Phase I study of advanced solid tumors showed no added toxicity over nivolumab monotherapy;

Data supports ongoing Phase I cohort expansion of lirilumab in combination with nivolumab;

Efficacy data will be presented at the Society for Immunotherapy of Cancer 2016 conference.

PRINCETON, N.J., & MARSEILLE, France--(BUSINESS WIRE)--Bristol-Myers Squibb Company (NYSE:BMY) and Innate Pharma SA (Euronext Paris: FR0010331421 – IPH) today announced safety data for two Phase I studies conducted by Bristol-Myers Squibb, testing lirilumab in combination with nivolumab or ipilimumab, respectively, in patients with advanced refractory solid tumors. Lirilumab is a first-in-class antibody directed against the inhibitory killer-cell immunoglobulin-like receptors (KIRs) expressed predominantly on natural killer (NK) cells and some T cells. It was licensed by Innate to Bristol-Myers Squibb and is being studied for its potential to complement nivolumab or ipilimumab, which act on different cell types and via different mechanisms of action.

The safety profile of the combination of lirilumab and nivolumab therapy was similar to that of nivolumab monotherapy, with the exception of an increased frequency of low grade infusion-related reactions in patients treated with the lirilumab combinations. These reactions were clinically managed and similar to those seen with lirilumab alone. In the limited population (22 patients) studied for the combination of lirilumab and ipilimumab, there did not appear to be additional safety concerns compared to ipilimumab monotherapy.

Based on these data, further evaluation of lirilumab in combination with nivolumab is warranted. Efficacy data from the lirilumab and nivolumab combination study will be reported separately.

“We are very pleased by these safety results. They add to an existing body of data that support our scientific platform targeting NK receptors and the rationale for the development of lirilumab, our anti-KIR antibody licensed to Bristol-Myers Squibb, in various combinations,” said Pierre Dodion, Chief Medical Officer of Innate Pharma. “We are now looking forward to the efficacy data that will be presented at the Society for Immunotherapy of Cancer 2016 conference.”

“These studies are part of Bristol-Myers Squibb's ongoing efforts to explore innovative and complementary combinations of immunotherapies with the ultimate goal of achieving quality long-term survival for patients living with different types of cancer,” said Timothy Reilly, Vice President & Head of Oncology Early Assets Development at Bristol-Myers Squibb. “The preliminary safety data of this novel anti-KIR antibody, lirilumab, in combination with nivolumab or ipilimumab, provide support for this approach. Through ongoing collaborations and extensive translational research programs, Bristol-Myers Squibb is working to develop and understand the next generation of transformational Immuno-Oncology combinations with the potential to impact the standard of care in oncology for patients with unmet needs.”

The results were presented by Dr. Neil H. Segal, Memorial Sloan-Kettering Cancer Center, at the European Society for Medical Oncology (ESMO) 2016 congress (October 7 – 11, 2016) in Copenhagen, Denmark, in a poster entitled “Safety of the natural killer (NK) cell-targeted anti-KIR Antibody, lirilumab (liri), in combination with nivolumab (nivo) or ipilimumab (ipi) in two phase I studies in advanced refractory solid tumors” (poster number 1086P).

About the Phase I trial of lirilumab in combination with nivolumab (anti-PD-1) in solid tumors (CA223-001):

CA223-001 is a Phase I dose escalation and cohort expansion study of lirilumab in combination with nivolumab in patients with
advanced solid tumors. In this trial, patients received lirilumab (0.1, 0.3, 1.0, or 3.0 mg/kg) once every 4 weeks and nivolumab (3 mg/kg) once every 2 weeks, in 8-week treatment cycles for a maximum of 12 cycles.

The purpose of this Phase I open label study is to determine the safety of the combination of lirilumab and nivolumab and to explore the preliminary anti-tumor activity of the combination in patients with a range of advanced solid tumors.

In the escalation and expansion phases, 159 patients were treated. No dose-limiting toxicities (DLTs) were reported with lirilumab and nivolumab treatment. The overall rate of treatment-related adverse events (TRAEs) was reported as 71.7 percent (114/159) and the rate of Grade 1-2 TRAEs was 56.6 percent (90/159), with the most common being fatigue (20.8 percent), pruritus (18.9 percent), and infusion-related reaction (17.6 percent). The rate of Grade 3-4 TRAEs was 15.1 percent (24/159). Discontinuations due to TRAEs occurred in 7.5 percent (12/159), with only treatment related pneumonitis (3/159; Grade 2) and diarrhea (2/159; Grade 2) occurring in more than one patient.

About the Phase I trial of lirilumab in combination with ipilimumab (anti-CTLA4) in solid tumors (CA223-002):

CA223-002 was a Phase I dose escalation and cohort expansion study of lirilumab in combination with ipilimumab in patients with advanced solid tumors. In this trial, patients received lirilumab (0.1, 0.3, 1.0, or 3.0 mg/kg) + ipilimumab (3 mg/kg) once every 3 weeks for 4 doses (induction phase) and then every 12 weeks for 4 doses (maintenance phase).

The purpose of this Phase I open label study was to determine the safety of the combination of lirilumab and ipilimumab and to provide preliminary information on the anti-tumor activity of the combination.

The study enrolled 22 patients. The overall rate of treatment-related adverse events (TRAEs) was reported as 68.2 percent (15/22) and the rate of Grade 1-2 TRAEs was 59.1 percent (13/22), with fatigue (27.3 percent) and diarrhea (22.7 percent) being the most common. The rate of Grade 3-4 TRAEs was 9.1 percent (2/22) and included erythematous rash and pruritus (1/22) and hypopituitarism (1/22). This study is complete and the combination of lirilumab with ipilimumab is no longer being evaluated.

Poster details:

Category: Immunotherapy of cancer
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Date: Sunday, October 9, 2016
Presentation Time: 1:00 - 2:00 p.m.
Location: Bella Center, Hall E, Copenhagen
Presenter: Dr. Neil H. Segal, Memorial Sloan-Kettering Cancer Center

About lirilumab (IPH2102/BMS-986015):

Lirilumab is a fully human monoclonal antibody that is designed to act as a checkpoint inhibitor by blocking the interaction between KIR2DL-1,-2,-3 inhibitory receptors and their ligands. Blocking these receptors facilitates activation of NK cells and, potentially some subsets of T cells, ultimately leading to destruction of tumor cells.

Lirilumab is licensed to Bristol-Myers Squibb Company. As part of the agreement with Innate Pharma, Bristol-Myers Squibb holds exclusive worldwide rights to develop, manufacture and commercialize lirilumab and related compounds blocking KIR receptors, for all indications. Under the agreement, Innate Pharma conducts the development of lirilumab through Phase II in acute myeloid leukemia (“AML”).

Innate is currently testing lirilumab in a randomized, double-blind, placebo-controlled Phase II trial as maintenance treatment in elderly patients with AML in first complete remission (“EffiKIR” trial). In addition, lirilumab is also being evaluated by Bristol-Myers Squibb in clinical trials in combination with other agents in a variety of tumor types.

About Bristol-Myers Squibb

Bristol-Myers Squibb is a global biopharmaceutical company whose mission is to discover, develop and deliver innovative medicines that help patients prevail over serious diseases. For more information about Bristol-Myers Squibb, visit us at BMS.com or follow us on LinkedIn, Twitter, YouTube and Facebook.

Bristol-Myers Squibb: At the Forefront of Immuno-Oncology Science & Innovation

At Bristol-Myers Squibb, patients are at the center of everything we do. Our vision for the future of cancer care is focused on researching and developing transformational Immuno-Oncology (I-O) medicines that will raise survival expectations in hard-to-treat cancers and will change the way patients live with cancer.

We are leading the scientific understanding of I-O through our extensive portfolio of investigational and approved agents, including the first combination of two I-O agents in metastatic melanoma, and our differentiated clinical development program, which is studying broad patient populations across more than 20 types of cancers with 11 clinical-stage molecules designed to target different immune system pathways. Our deep expertise and innovative clinical trial designs uniquely position us to advance the science of combinations across multiple tumors and potentially deliver the next wave of I-O combination regimens with a sense of urgency. We also continue to pioneer research that will help facilitate a deeper understanding of the role of immune biomarkers and inform which patients will benefit most from I-O therapies.

We understand making the promise of I-O a reality for the many patients who may benefit from these therapies requires not only innovation on our part but also close collaboration with leading experts in the field. Our partnerships with academia, government, advocacy and biotech companies support our collective goal of providing new treatment options to advance the standards of clinical practice.

Bristol-Myers Squibb Forward Looking Statement
This press release contains "forward-looking statements" as that term is defined in the Private Securities Litigation Reform Act of 1995 regarding the research, development and commercialization of pharmaceutical products. Such forward-looking statements are based on current expectations and involve inherent risks and uncertainties, including factors that could delay, divert or change any of them, and could cause actual outcomes and results to differ materially from current expectations. Among other risks, there can be no guarantee that lirilumab either as a monotherapy or in combination with nivolumab or ipilimumab will receive regulatory approval for the treatment of cancer. No forward-looking statement can be guaranteed. Forward-looking statements in this press release should be evaluated together with the many uncertainties that affect Bristol-Myers Squibb's business, particularly those identified in the cautionary factors discussion in Bristol-Myers Squibb's Annual Report on Form 10-K for the year ended December 31, 2015 in our Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K. Bristol-Myers Squibb undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise.

About Innate Pharma

Innate Pharma S.A. is a clinical-stage biotechnology company with a focus on discovering and developing first-in-class therapeutic antibodies that harness the innate immune system to improve cancer treatment and clinical outcomes for patients.

Innate Pharma specializes in immuno-oncology, a new therapeutic field that is changing cancer treatment by mobilizing the power of the body's immune system to recognize and kill cancer cells.

The Company's aim is to become a commercial stage biopharmaceutical company in the area of immunotherapy and focused on serious unmet medical needs in cancer. Innate Pharma has pioneered the discovery and development of checkpoint inhibitors to activate the innate immune system. Innate Pharma's innovative approach has resulted in three first-in-class, clinical-stage antibodies targeting natural killer cell receptors that may address a broad range of solid and hematological cancer indications as well as additional preclinical product candidates and technologies. Targeting receptors involved in innate immunity also creates opportunities for the Company to develop therapies for inflammatory diseases.

The Company's expertise and understanding of natural killer cell biology have enabled it to enter into major alliances with leaders in the biopharmaceutical industry including AstraZeneca, Bristol-Myers Squibb, Novo Nordisk A/S and Sanofi.

Based in Marseille, France, Innate Pharma has more than 130 employees and is listed on Euronext Paris.

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

About Innate Pharma shares:
ISIN code FR0010331421
Ticker code IPH

Innate Pharma Forward-Looking Statements:

This press release contains certain forward-looking statements. Although the company believes its expectations are based on reasonable assumptions, these forward-looking statements are subject to numerous risks and uncertainties, which could cause the company's actual results, financial condition, performance or achievements to differ from those contained in the forward-looking statements, please refer to the Risk Factors ("Facteurs de Risque") section of the Document de Reference prospectus filed with the AMF, which is available on the AMF website (http://www.amf-france.org) or on Innate Pharma's website.

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.

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New data reported at #ESMO2016 on @bmsnews & @InnatePharma #ImmunoOncology combination