



## Lilly Announces Top-Line Phase 3 Results for Oral JAK Inhibitor Baricitinib, in Combination with Topical Corticosteroids in Adult Patients with Moderate to Severe Atopic Dermatitis

August 23, 2019

INDIANAPOLIS, Aug. 23, 2019 /PRNewswire/ -- Eli Lilly and Company (NYSE:LLY) and Incyte Corporation (NASDAQ:INCY) announced today that baricitinib met the primary endpoint in BREEZE-AD7, the third pivotal Phase 3 trial in the BREEZE-AD program to be completed in 2019.

BREEZE-AD7, an investigational study evaluating the efficacy and safety of baricitinib, an oral JAK inhibitor, to treat moderate to severe atopic dermatitis (AD) in adults met its primary endpoint. Adding baricitinib to standard-of-care topical corticosteroids significantly improved disease severity, measured by the validated Investigator's Global Assessment for AD (vIGA) score of "clear or almost clear" skin (vIGA 0, 1), the primary endpoint of the study at 16 weeks.

|                                                   | Placebo<br>(N=109) | Baricitinib 2-mg<br>(N=109) | Baricitinib 4-mg<br>(N=111) |
|---------------------------------------------------|--------------------|-----------------------------|-----------------------------|
| vIGA of 0 or 1 at Week 16, n (%)                  | 16 (14.7)          | 26 (23.9)*                  | 34 (30.6)**                 |
| EASI75 at Week 16, n (%)                          | 25 (22.9)          | 47 (43.1)**                 | 53 (47.7)***                |
| 4-point improvement in Itch NRS at Week 16, n (%) | 21 (20.2)          | 37 (38.1)**                 | 44 (44.0)***                |

\*NS, \*\* P≤0.01, and \*\*\* P≤0.001 for baricitinib compared to placebo by analysis unadjusted for multiplicity.

BREEZE-AD7, conducted outside of the United States, is the third of five placebo-controlled trials in the Phase 3 program and recruited patients from Asia, Europe, South America and Australia.

Safety data were consistent with the known safety profile of baricitinib. The most common treatment-emergent adverse events observed were nasopharyngitis, upper respiratory tract infection and folliculitis. One pulmonary embolism was reported in the baricitinib group. One opportunistic infection was reported in the placebo group. No malignancies, major adverse cardiovascular events (MACE), or deaths were reported in the study.

"Despite recent scientific advances, moderate to severe atopic dermatitis remains a disease with significant unmet treatment needs. Atopic dermatitis is a chronic, relapsing condition that can vary greatly from person to person, and yet there are few medicines to address the different signs and symptoms in each patient," said Lotus Mallbris, M.D., Ph.D., vice president of immunology development at Lilly. "Today's baricitinib results in combination therapy reveal important additional clinical information in a chronic disease where patients currently have limited oral treatment options."

Baricitinib 4 mg and 2 mg both met the primary endpoint on BREEZE-AD1 and BREEZE-AD2 clinical trials disclosed earlier this year. Lilly plans to share the detailed 16-week data and analyses from BREEZE-AD7 at future scientific venues and in peer-reviewed journals later this year. Top-line data from the remaining two Phase 3 trials will be announced later this year or early next year.

Baricitinib is approved for the treatment of adults with moderately to severely active rheumatoid arthritis (RA) in more than 60 countries, including the U.S., member states of the EU and Japan, and is marketed as OLUMIANT®.

### Indication and Usage for OLUMIANT (baricitinib) tablets (in the United States) for RA patients

OLUMIANT® (baricitinib) 2 mg is indicated for the treatment of adult patients with moderately to severely active rheumatoid arthritis who have had an inadequate response to one or more tumor necrosis factor (TNF) antagonist therapies. Limitation of Use: Use of OLUMIANT in combination with other JAK inhibitors, biologic disease-modifying antirheumatic drugs (DMARDs), or with potent immunosuppressants such as azathioprine and cyclosporine is not recommended.

### IMPORTANT SAFETY INFORMATION FOR OLUMIANT (baricitinib) tablets

#### WARNING: SERIOUS INFECTIONS, MALIGNANCY, AND THROMBOSIS

**SERIOUS INFECTIONS:** Patients treated with Olumiant are at risk for developing serious infections that may lead to hospitalization or death. Most patients who developed these infections were taking concomitant immunosuppressants such as methotrexate or corticosteroids. If a serious infection develops, interrupt Olumiant until the infection is controlled. Reported infections include:

- **Active tuberculosis (TB), which may present with pulmonary or extrapulmonary disease. Test patients for latent TB before initiating Olumiant and during therapy. Treatment for latent infection should be considered prior to Olumiant use.**
- **Invasive fungal infections, including candidiasis and pneumocystosis. Patients with invasive fungal infections may present with disseminated, rather than localized, disease.**
- **Bacterial, viral, and other infections due to opportunistic pathogens.**

Carefully consider the risks and benefits of Olumiant prior to initiating therapy in patients with chronic or recurrent infection.

Closely monitor patients for the development of signs and symptoms of infection during and after treatment with Olumiant including the possible development of TB in patients who tested negative for latent TB infection prior to initiating therapy.

**MALIGNANCIES:** Lymphoma and other malignancies have been observed in patients treated with Olumiant.

**THROMBOSIS:** Thrombosis, including deep venous thrombosis (DVT) and pulmonary embolism (PE), has been observed at an increased incidence in patients treated with Olumiant compared to placebo. In addition, there were cases of arterial thrombosis. Many of these adverse events were serious and some resulted in death. Patients with symptoms of thrombosis should be promptly evaluated.

#### WARNINGS AND PRECAUTIONS

**SERIOUS INFECTIONS:** The most common serious infections reported with Olumiant included pneumonia, herpes zoster, and urinary tract infection. Among opportunistic infections, tuberculosis, multidermatomal herpes zoster, esophageal candidiasis, pneumocystosis, acute histoplasmosis, cryptococcosis, cytomegalovirus, and BK virus were reported with Olumiant. Some patients have presented with disseminated rather than local disease, and were often taking concomitant immunosuppressants such as methotrexate or corticosteroids. Avoid Olumiant in patients with an active, serious infection, including localized infections. Consider the risks and benefits of treatment prior to initiating Olumiant in patients:

- with chronic or recurrent infection
- who have been exposed to TB
- with a history of a serious or an opportunistic infection
- who have resided or traveled in areas of endemic tuberculosis or endemic mycoses; or
- with underlying conditions that may predispose them to infection.

Closely monitor patients for infections during and after Olumiant treatment. Interrupt Olumiant if a patient develops a serious infection, an opportunistic infection, or sepsis. Do not resume Olumiant until the infection is controlled.

**Tuberculosis** – Before initiating Olumiant evaluate and test patients for latent or active infection and treat patients with latent TB with standard antimycobacterial therapy. Olumiant should not be given to patients with active TB. Consider anti-TB therapy prior to initiating Olumiant in patients with a history of latent or active TB in whom an adequate course of treatment cannot be confirmed, and for patients with a negative test for latent TB but who have risk factors for TB infection. Monitor patients for TB during Olumiant treatment.

**Viral Reactivation** – Viral reactivation, including cases of herpes virus reactivation (e.g., herpes zoster), were reported in clinical studies with Olumiant. If a patient develops herpes zoster, interrupt Olumiant treatment until the episode resolves.

The impact of Olumiant on chronic viral hepatitis reactivation is unknown. Screen for viral hepatitis in accordance with clinical guidelines before initiating Olumiant.

**MALIGNANCY AND LYMPHOPROLIFERATIVE DISORDERS:** Malignancies were observed in Olumiant clinical studies. Consider the risks and benefits of Olumiant prior to initiating therapy in patients with a known malignancy other than a successfully treated non-melanoma skin cancer (NMSC) or when considering continuing Olumiant in patients who develop a malignancy. NMSCs were reported in patients treated with Olumiant. Periodic skin examination is recommended for patients who are at increased risk for skin cancer.

**THROMBOSIS:** Thrombosis, including DVT and PE, has been observed at an increased incidence in Olumiant-treated patients compared to placebo. In addition, arterial thrombosis events in the extremities have been reported in clinical studies with Olumiant. Many of these adverse events were serious and some resulted in death. There was no clear relationship between platelet count elevations and thrombotic events. Use Olumiant with caution in patients who may be at increased risk of thrombosis. If clinical features of DVT/PE or arterial thrombosis occur, evaluate patients promptly and treat appropriately.

**GASTROINTESTINAL PERFORATIONS:** Gastrointestinal perforations have been reported in Olumiant clinical studies, although the role of JAK inhibition in these events is not known. Use Olumiant with caution in patients who may be at increased risk for gastrointestinal perforation (e.g., patients with a history of diverticulitis). Promptly evaluate patients who present with new onset abdominal symptoms for early identification of gastrointestinal perforation.

#### LABORATORY ABNORMALITIES:

**Neutropenia** – Olumiant treatment was associated with an increased incidence of neutropenia (absolute neutrophil count [ANC] <1000 cells/mm<sup>3</sup>) compared to placebo. Avoid initiation or interrupt Olumiant treatment in patients with an ANC <1000 cells/mm<sup>3</sup>. Evaluate at baseline and thereafter according to routine patient management.

**Lymphopenia** – Absolute lymphocyte count (ALC) <500 cells/mm<sup>3</sup> were reported in Olumiant clinical trials. Lymphocyte counts less than the lower limit of normal were associated with infection in patients treated with Olumiant, but not placebo. Avoid initiation or interrupt Olumiant treatment in patients with an ALC <500 cells/mm<sup>3</sup>. Evaluate at baseline and thereafter according to routine patient management.

**Anemia** – Decreases in hemoglobin levels to <8 g/dL were reported in Olumiant clinical trials. Avoid initiation or interrupt Olumiant treatment in patients with hemoglobin <8 g/dL. Evaluate at baseline and thereafter according to routine patient management.

**Liver Enzyme Elevations** – Olumiant treatment was associated with increased incidence of liver enzyme elevation compared to placebo. Increases to ≥5x and ≥10x upper limit of normal were observed for both ALT and AST in patients in Olumiant clinical trials.

Evaluate at baseline and thereafter according to routine patient management. Promptly investigate the cause of liver enzyme elevation to identify potential cases of drug-induced liver injury. If increases in ALT or AST are observed and drug-induced liver injury is suspected, interrupt Olumiant until this diagnosis is excluded.

**Lipid Elevations** – Treatment with Olumiant was associated with increases in lipid parameters, including total cholesterol, low-density lipoprotein cholesterol, and high-density lipoprotein cholesterol. Assess lipid parameters approximately 12 weeks following Olumiant initiation. Manage patients according to clinical guidelines for the management of hyperlipidemia.

**VACCINATIONS:** Avoid use of live vaccines with Olumiant. Update immunizations in agreement with current immunization guidelines prior to initiating Olumiant therapy.

#### **ADVERSE REACTIONS**

Adverse reactions ( $\geq 1\%$ ) include: upper respiratory tract infections (16.3%, 14.7%, 11.7%), nausea (2.7%, 2.8%, 1.6%), herpes simplex (0.8%, 1.8%, 0.7%), and herpes zoster (1.0%, 1.4%, 0.4%) for Olumiant 2 mg, baricitinib 4 mg, and placebo, respectively.

#### **USE IN SPECIFIC POPULATIONS**

**PREGNANCY AND LACTATION:** No information is available to support the use of Olumiant in pregnancy or lactation. Advise women not to breastfeed during treatment with Olumiant.

**HEPATIC AND RENAL IMPAIRMENT:** Olumiant is not recommended in patients with severe hepatic impairment or in patients with moderate or severe renal impairment.

Please click to access full [Prescribing Information](#), including **Boxed Warning about Serious infections, Malignancies, and Thrombosis, and Medication Guide**.

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##### **About BREEZE-AD7**

The BREEZE-AD7 clinical trial is a multicenter, randomized, double-blind, placebo-controlled, Phase 3 study that evaluated the efficacy and safety of baricitinib in combination with topical corticosteroids in adult patients with moderate to severe atopic dermatitis. Two doses were evaluated separately such that the primary objective of the study could be met if one or both doses achieved the primary endpoint. The primary endpoint evaluated significant improvement in disease activity as determined by the proportion of patients on baricitinib achieving clear (0) or almost clear skin (1) with a greater than or equal to 2-point improvement as measured by the validated 5-point Investigator's Global Assessment for AD (vIGA) scale at 16 weeks of treatment. BREEZE-AD7 is the third of five Phase 3 studies that make up the BREEZE-AD program. Lilly previously announced results for BREEZE-AD1 and BREEZE-AD2 earlier this year.

##### **About OLUMIANT®**

OLUMIANT is a once-daily, oral JAK inhibitor approved in the U.S. for the treatment of adults with moderately to severely active rheumatoid arthritis who have had an inadequate response to one or more TNF inhibitor therapies, and approved outside of the U.S. for patients with moderately to severely active rheumatoid arthritis who have had an inadequate response to one or more DMARDs. There are four known JAK enzymes: JAK1, JAK2, JAK3 and TYK2. JAK-dependent cytokines have been implicated in the pathogenesis of a number of inflammatory and autoimmune diseases. OLUMIANT has greater inhibitory potency at JAK1, JAK2 and TYK2 relative to JAK3; however, the relevance of inhibition of specific JAK enzymes to therapeutic effectiveness is not currently known. OLUMIANT is approved in more than 60 countries.

##### **About Atopic Dermatitis**

Atopic dermatitis (AD), a serious form of atopic eczema, is a chronic, relapsing skin disease characterized by intense itching, dry skin and inflammation that can be present on any part of the body. AD is a heterogeneous disease both clinically and biologically, but may be characterized by chronic baseline symptoms of itch, redness and skin damage that are often punctuated with episodic, sometimes unpredictable, flares or exacerbations. AD affects approximately 1-3 percent of adults worldwide.

Moderate to severe AD is characterized by intense itching, resulting in visibly damaged skin. Like other chronic inflammatory diseases, AD is immune-mediated and involves a complex interplay of immune cells and inflammatory cytokines.

##### **About Lilly in Immunology**

Lilly is bringing our heritage of championing groundbreaking, novel science to immunology and is driven to change what's possible for people living with autoimmune diseases. There are still significant unmet needs, as well as personal and societal costs, for people living with a variety of autoimmune diseases and our goal is to minimize the burden of disease. Lilly is investing in leading-edge clinical approaches across our immunology portfolio in hopes of transforming the autoimmune disease treatment experience. We've built a deep pipeline and are focused on advancing cutting-edge science to find new treatments that offer meaningful improvements to support the people and the communities we serve.

##### **About Eli Lilly and Company**

Lilly is a global healthcare leader that unites caring with discovery to create medicines that make life better for people around the world. We were founded more than a century ago by a man committed to creating high-quality medicines that meet real needs, and today we remain true to that mission in all our work. Across the globe, Lilly employees work to discover and bring life-changing medicines to those who need them, improve the understanding and management of disease, and give back to communities through philanthropy and volunteerism. To learn more about Lilly, please visit us at [www.lilly.com](http://www.lilly.com) and [newsroom.lilly.com/social-channels](http://newsroom.lilly.com/social-channels).

##### **About Incyte**

Incyte Corporation is a Wilmington, Delaware-based biopharmaceutical company focused on the discovery, development and commercialization of proprietary therapeutics. For additional information on Incyte, please visit the company's website at [www.incyte.com](http://www.incyte.com).

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This press release contains forward-looking statements (as that term is defined in the Private Securities Litigation Reform Act of 1995) about OLUMIANT (baricitinib) as a treatment for patients with rheumatoid arthritis and as a potential treatment for patients with moderate to severe atopic dermatitis, and reflects Lilly's and Incyte's current beliefs. However, as with any pharmaceutical product, there are substantial risks and uncertainties in the process of development and commercialization. Among other things, there can be no guarantee that OLUMIANT will receive additional regulatory approvals or be commercially successful. For further discussion of these and other risks and uncertainties, see Lilly's and Incyte's most recent respective Form 10-K and Form 10-Q filings with the United States Securities and Exchange Commission. Except as required by law, Lilly and Incyte

undertake no duty to update forward-looking statements to reflect events after the date of this release.



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