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Two-Year Data Show Long-Term Benefits of Chronic Soliris® Therapy in Patients with aHUS

— Data from Phase 2 Soliris Extension Studies Demonstrate Significant and Sustained Benefits in TMA Inhibition and Improved Renal Function —

— Additional Data Presented at ASN Meeting Support Early Initiation of Soliris Regardless of Identified Genetic Mutation in Patients with aHUS —

CHESHIRE, Conn.--(BUSINESS WIRE)-- Alexion Pharmaceuticals, Inc. (Nasdaq: ALXN) today announced the presentation of two-year data that highlight the long-term benefits of chronic Soliris® (eculizumab) therapy in patients with atypical hemolytic uremic syndrome (aHUS), an ultra-rare genetic disease characterized by thrombotic microangiopathy (TMA), the formation of blood clots in small blood vessels throughout the body. In two pivotal phase 2 studies, which initially enrolled 37 patients, 32 patients entered a long-term extension phase. The data demonstrated that ongoing Soliris treatment for two years was associated with sustained inhibition of complement-mediated TMA, as indicated by a maintained increase in platelet count, and sustained improvement in renal function and TMA event-free status.[1,2] The data were presented today at Kidney Week 2012, the annual meeting of the American Society of Nephrology (ASN) in San Diego. Additionally, data presented in a poster session at ASN support early initiation of Soliris therapy regardless of the presence or absence of genetic mutations in patients with aHUS.[3]

aHUS is an ultra-rare, life-threatening, chronic genetic disease that can progressively damage vital organs, leading to stroke, heart attack, kidney failure, and death.[4] The morbidity and premature mortality in aHUS is caused by chronic uncontrolled activation of the complement system, resulting in TMA.[5,6] Soliris, a first-in-class terminal complement inhibitor, specifically targets uncontrolled complement activation, and is approved for the treatment of patients with aHUS to inhibit complement-mediated TMA.

"These long-term extension studies show that early and chronic treatment with Soliris leads to continued improvement in patient outcomes for up to two years, as demonstrated by continued inhibition of complement-mediated TMA, and improvement in renal function," said Leonard Bell, M.D., Chief Executive Officer of Alexion. "Additional data presented at ASN show that clinicians need not wait for genetic mutation analyses before initiating Soliris therapy, further supporting the rationale for commencing Soliris therapy at the time of clinical diagnosis of aHUS."

Soliris in aHUS Patients with Progressing TMA Despite Intensive PE/PI

In an oral presentation today, researchers presented two-year follow-up data from a prospective, open-label, single-arm phase 2 study in 17 adult and adolescent patients with aHUS who had presented with progressive clinical TMA complications despite intensive plasma exchange or plasma infusion (PE/PI). Patients had been diagnosed with aHUS for a median of 10 months before the start of the study, and 71% had severe renal impairment, with an estimated glomerular filtration rate (eGFR) < 30 mL/min/1.73m^2 at baseline. Seventeen patients were enrolled in the initial study and received Soliris for 26 weeks. Thirteen of the 17 patients continued into a long-term extension phase. Patients were evaluated for a median duration of 100 weeks. Data for all 17 patients were analyzed using repeated measures models and response through data cutoff for each patient.[1]

The study achieved its primary endpoint, as mean platelet count improved from baseline at 26 weeks (p=0.0001). Additionally, the improved platelet count continued over two years (p < 0.001), indicating sustained inhibition of complement-mediated TMA with ongoing eculizumab treatment. Platelet normalization (≥150x10^9/L) was achieved in 13 of 15 patients (87%) who had low platelets at baseline by 26 weeks and was maintained through two years for 12 of the 13 patients. TMA event-free status (at least 12 consecutive weeks of stable platelet count, no PE/PI, and no new dialysis) was also achieved rapidly and maintained through two years. Specifically, 15 of 17 (88%) Soliris-treated patients achieved TMA event-free status through each data cut-off point (26 weeks, one year, and two years), and TMA event-free status was achieved regardless of the identification of a genetic complement mutation. Hematologic normalization also improved with chronic Soliris treatment over two years: 13 of 17 (76%) Soliris-treated patients achieved and maintained hematologic normalization through 26 weeks, and 15 of 17 (88%) Soliris-treated patients achieved and maintained hematologic normalization through one year and two years.[1]

Investigators also observed that chronic Soliris treatment was associated with a sustained improvement in eGFR with a mean change from baseline of 32.0 mL/min/1.73m^2 through 26 weeks (p=0.001) and 35.2 mL/min/1.73m^2 through two years

(p=0.0005). Improvement in eGFR was rapid over the first 4 weeks (positive rate of change $p < 0.0001$), and continued to improve with further Soliris treatment from week 4 through two years (p=0.03). Chronic kidney disease (CKD) improvement of at least one stage was reported in 10 patients (59%) at 26 weeks and in 12 patients (71%) at two years. A serum creatinine improvement of at least 25% was observed in 11 patients (65%) at 26 weeks and in 13 patients (76%) at two years. Soliris treatment also eliminated the need for dialysis in four of five patients receiving dialysis at baseline. The researchers also observed that earlier intervention with Soliris was associated with greater increases in eGFR ($p < 0.01$). In addition, Soliris significantly improved quality of life over two years ($p < 0.0001$).[1]

"The two-year data show that longer Soliris treatment led to continued improvements and better outcomes for patients with aHUS, including sustained inhibition of complement-mediated TMA, a reduced burden of TMA interventions, and markedly improved renal function," said Christophe Legendre, M.D., Professor of Nephrology at the University of Paris Descartes and Hôpital Necker in Paris, France, who presented the data at ASN. "Moreover, earlier treatment was associated with better renal outcomes. No deaths were reported during the two-year study, providing further evidence of the long-term benefits of Soliris in this devastating and life-threatening disease."

Soliris was well-tolerated in the study. The most common drug-related adverse events (AEs) were leukopenia, vomiting, nausea, and accelerated hypertension.[1]

Soliris in aHUS Patients with a Long Duration of Disease and Chronic Kidney Damage (Previously Receiving Prolonged PE/PI)

In a separate oral presentation today, researchers presented two-year findings from a prospective, open-label, single-arm phase 2 trial of Soliris in adult and adolescent patients with a long duration of aHUS and chronic kidney damage who were undergoing prolonged PE/PI before starting treatment with Soliris. Patients had been diagnosed with aHUS a median of 48 months prior to starting the study. Twenty patients were enrolled in the initial study and received Soliris for 26 weeks. Nineteen of the 20 patients continued into a long-term extension phase. Patients were evaluated for a median duration of 114 weeks. Data for all 20 patients were analyzed using repeated measures models and response through data cutoff for each patient.[2]

The study achieved its primary endpoint, TMA event-free status, in 16 of 20 (80%) patients through 26 weeks. TMA-event free status was achieved and maintained by 19 of 20 (95%) patients through two years, indicating that chronic treatment with Soliris continued to significantly inhibit complement-mediated TMA. Patients achieved TMA event-free status regardless of the identification of a genetic complement mutation. Hematologic normalization was achieved in 18 of 20 patients (90%) through week 26 and was maintained through two years. Importantly, no patient required new dialysis and only one patient required any PE/PI through data cutoff. Of the 19 patients who entered the long-term extension phase, with a median duration of over two years of treatment, 18 were alive as of data cutoff (one died of causes deemed unrelated to eculizumab).[2]

Investigators also observed that chronic Soliris treatment was associated with a sustained improvement in eGFR, with a mean change from baseline of 6.1 mL/min/1.73m^2 through 26 weeks ($p=0.0001$) and 7.2 mL/min/1.73m^2 through two years ($p < 0.05$). Improvement in eGFR was rapid over the first 4 weeks (positive rate of change $p=0.005$), and sustained with further Soliris treatment from week 4 through two years. By 26 weeks, one of 20 patients (5%) achieved an eGFR increase of at least 15 mL/min/1.73m^2, compared to 8 of 20 (40%) patients by two years. Seven of 20 patients (35%) experienced CKD improvement of at least one stage by 26 weeks, compared to 12 of 20 patients (60%) by two years, indicating that kidney function continues to improve with ongoing Soliris treatment. Additionally, patients reported significantly improved quality of life over the two years of ongoing eculizumab treatment ($p < 0.001$).[2]

"By following patients during Soliris treatment for more than two years, we have accumulated additional evidence of the beneficial effects of chronic Soliris therapy in aHUS patients with long disease duration, which represents a very sick patient population," stated Christoph Licht, M.D., FASN, Associate Professor of Paediatrics Division of Nephrology at The Hospital for Sick Children, University of Toronto, who presented the results of the extension study. "With these long-term, two-year data, we can confirm what we previously reported: that sustained Soliris treatment helps to stabilize and improve renal function and provides an ongoing positive benefit/risk advantage for patients with aHUS."

Soliris was well tolerated in the study. The most common drug-related AEs were headache, leukopenia, lymphopenia, and cough/productive cough.[2]

Efficacy of Soliris Regardless of Identified Genetic Mutation

In a poster session on November 1, researchers presented an analysis of efficacy parameters across three Soliris studies (two prospective and one retrospective) based on the presence or absence of genetic abnormalities.[3] An estimated 50-70% of patients with aHUS have identifiable genetic mutations or complement factor H (CFH) auto-antibodies that cause chronic, uncontrolled, and excessive activation of the complement system.[4,5] The risk of death or end-stage renal disease (ESRD) is

similar in patients both with and without an identified mutation.[5,6]

Across the three Soliris studies, the efficacy of Soliris — as measured by TMA event-free status, platelet normalization, hematological normalization, and improvement in measures of renal function — was similar in patients regardless of the presence or absence of an identified genetic abnormality.[3]

"In three separate clinical studies, aHUS patients with and without identified genetic mutations or CFH auto-antibodies demonstrated similar improvements in clinical outcomes, including reduced disease burden, reduced complement-mediated TMA, improved renal function, and reduced need for supportive care intervention," said Timothy Goodship, M.D., Professor of Renal Medicine at Newcastle University and the lead author of the poster. "Given the risk of life-threatening systemic TMA events and organ damage in these patients, and the greater clinical improvements associated with early treatment, Soliris therapy can be started immediately at the time of diagnosis, without the delay of waiting for genetic testing, which can take several months to complete."

About aHUS

aHUS is a chronic, ultra-rare, and life-threatening disease in which a genetic deficiency in one or more complement regulatory genes causes chronic uncontrolled complement activation, resulting in complement-mediated thrombotic microangiopathy (TMA), the formation of blood clots in small blood vessels throughout the body.[7,8] Permanent, uncontrolled complement activation in aHUS causes a life-long risk for TMA, which leads to sudden, catastrophic, and life-threatening damage to the kidney, brain, heart, and other vital organs, and premature death.[7,9] Sixty-five percent of all patients with aHUS die, require kidney dialysis, or have permanent kidney damage within the first year after diagnosis despite plasma exchange or plasma infusion (PE/PI).[6,10] The majority of patients with aHUS who receive a kidney transplant commonly experience subsequent systemic TMA, resulting in a 90% transplant failure rate in these TMA patients.[11]

aHUS affects both children and adults.[5] Complement-mediated TMA also causes reduction in platelet count (thrombocytopenia) and red blood cell destruction (hemolysis). While mutations have been identified in at least ten different complement regulatory genes, mutations are not identified in 30-50% of patients with a confirmed diagnosis of aHUS.[5]

About Soliris

Soliris is a first-in-class terminal complement inhibitor developed from the laboratory through regulatory approval and commercialization by Alexion. Soliris is approved in the US, European Union, Japan and other countries as the first and only treatment in patients with paroxysmal nocturnal hemoglobinuria (PNH), a debilitating, chronic, ultra-rare, and life-threatening blood disorder, characterized by complement-mediated hemolysis (destruction of red blood cells). Soliris is indicated to reduce hemolysis.

Soliris is also approved in the US and European Union as the first and only treatment for patients with atypical hemolytic uremic syndrome (aHUS), a debilitating, chronic, ultra-rare and life-threatening genetic disorder characterized by complement-mediated thrombotic microangiopathy, or TMA (blood clots in small vessels). In the US, Soliris is indicated to inhibit complement-mediated TMA. The effectiveness of Soliris in aHUS is based on the effects on TMA and renal function. Prospective clinical trials in additional patients are ongoing to confirm the benefit of Soliris in patients with aHUS. Soliris is not indicated for the treatment of patients with Shiga-toxin *E. coli*-related hemolytic uremic syndrome (STEC-HUS).

Alexion's breakthrough approach in complement inhibition has received the pharmaceutical industry's highest honors: the 2008 Prix Galien USA Award for Best Biotechnology Product with broad implications for future biomedical research, and the 2009 Prix Galien France Award in the category of Drugs for Rare Diseases. More information, including the full prescribing information on Soliris, is available at www.soliris.net.

Important Safety Information

The US product label for Soliris includes a boxed warning: "Life-threatening and fatal meningococcal infections have occurred in patients treated with Soliris. Meningococcal infection may become rapidly life-threatening or fatal if not recognized and treated early. Comply with the most current Advisory Committee on Immunization Practices (ACIP) recommendations for meningococcal vaccination in patients with complement deficiencies. Immunize patients with a meningococcal vaccine at least 2 weeks prior to administering the first dose of Soliris, unless the risks of delaying Soliris therapy outweigh the risk of developing a meningococcal infection. (See Serious Meningococcal Infections (5.1) for additional guidance on the management of meningococcal infection.) Monitor patients for early signs of meningococcal infections and evaluate immediately if infection is suspected. Soliris is available only through a restricted program under a Risk Evaluation and Mitigation Strategy (REMS). Under the Soliris REMS, prescribers must enroll in the program. Enrollment in the Soliris REMS program and additional information are available by telephone: 1-888-soliris (1-888-765-4747)."

In patients with PNH, the most frequently reported adverse events observed with Soliris treatment in clinical studies were headache, nasopharyngitis (runny nose), back pain and nausea. Soliris treatment of patients with PNH should not alter anticoagulant management because the effect of withdrawal of anticoagulant therapy during Soliris treatment has not been established. In patients with aHUS, the most frequently reported adverse events observed with Soliris treatment in clinical studies were hypertension, upper respiratory tract infection, diarrhea, headache, anemia, vomiting, nausea, urinary tract infection, and leukopenia. Please see full prescribing information for Soliris, including boxed WARNING regarding risk of serious meningococcal infection.

About Alexion

Alexion Pharmaceuticals, Inc. is a biopharmaceutical company focused on serving patients with severe and ultra-rare disorders through the innovation, development and commercialization of life-transforming therapeutic products. Alexion is the global leader in complement inhibition and has developed and markets Soliris® (eculizumab) as a treatment for patients with PNH and aHUS, two debilitating, ultra-rare and life-threatening disorders caused by chronic uncontrolled complement activation. Soliris is currently approved in more than 40 countries for the treatment of PNH, and in the United States and the European Union for the treatment of aHUS. Alexion is evaluating other potential indications for Soliris and is developing four other highly innovative biotechnology product candidates. This press release and further information about Alexion Pharmaceuticals, Inc. can be found at: www.alexionpharma.com.

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Safe Harbor Statement

This news release contains forward-looking statements, including statements related to anticipated clinical development, regulatory and commercial milestones and potential health and medical benefits of Soliris® (eculizumab) for the potential treatment of patients with PNH and aHUS. Forward-looking statements are subject to factors that may cause Alexion's results and plans to differ from those expected, including for example, decisions of regulatory authorities regarding marketing approval or material limitations on the marketing of Soliris for its current or potential new indications, and a variety of other risks set forth from time to time in Alexion's filings with the Securities and Exchange Commission, including but not limited to the risks discussed in Alexion's Quarterly Report on Form 10-Q for the period ended September 30, 2012, and in Alexion's other filings with the Securities and Exchange Commission. Alexion does not intend to update any of these forward-looking statements to reflect events or circumstances after the date hereof, except when a duty arises under law.

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