Soliris® (eculizumab) Inhibits TMA and Improves Renal Function in Pediatric and Adult Patients with atypical Hemolytic Uremic Syndrome (aHUS)

– New Data from the Largest Prospective Trial of Adult Patients with aHUS and First Prospective Trial in Pediatric Patients with aHUS Confirm the Safety and Efficacy Profile of Soliris --

– ASN Meeting Also Features Three-year Update Data Highlighting Long-term Benefits of Chronic Soliris Therapy in Patients with aHUS –

CHESHIRE, Conn., Nov. 9, 2013 -- Alexion Pharmaceuticals, Inc. (Nasdaq: ALXN) today announced that researchers presented data from four clinical trials, all demonstrating the clinical benefits of Soliris® (eculizumab) for the treatment of atypical hemolytic uremic syndrome (aHUS), a genetic, chronic, ultra-rare disease associated with vital organ failure and premature death. Soliris is the first and only approved safe and effective treatment for pediatric and adult patients with aHUS. In two large, prospective, multinational studies, Soliris inhibited systemic complement-mediated thrombotic microangiopathy (TMA, the formation of blood clots in small blood vessels throughout the body) and improved renal function in both pediatric and adult patients with aHUS.[1,2] The data were presented at Kidney Week 2013, the annual meeting of the American Society of Nephrology (ASN) in Atlanta.

The ASN meeting also featured the presentation of three-year update data from two pivotal Phase 2 extension studies that highlighted the long-term benefits of Soliris therapy in patients with aHUS. In these studies, ongoing Soliris treatment at the three-year update was associated with sustained inhibition of complement-mediated TMA, as indicated by stabilization or continued improvement in key hematologic and renal endpoints, and quality of life.[3,4] Additionally, investigators presented initial characteristics from patients enrolled in a global aHUS Registry, which is prospectively collecting information to enhance understanding of the disease process in order to help optimize care and improve quality of life for patients with aHUS.[5]

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.[6] The morbidities and premature mortality in aHUS are caused by chronic, uncontrolled activation of the complement system, resulting in systemic TMA.[7,8] Soliris, a first-in-class terminal complement inhibitor, specifically targets uncontrolled complement activation, and is the first and only approved treatment for patients with aHUS in the United States, European Union, Japan and other countries.

“Results from four prospective studies demonstrate a significant and sustained inhibition of complement-mediated TMA with Soliris treatment and support the chronic use of Soliris in pediatric and adult patients with aHUS,” said Leonard Bell, Chief Executive Officer of Alexion. “These studies further underscore the rationale for initiating Soliris therapy at the time of clinical diagnosis of aHUS and chronic treatment of patients to achieve optimal outcomes.”

Soliris in Pediatric Patients with aHUS (Abstract SA-PO0849)

In a poster presentation today, researchers presented positive results from the first prospective trial of Soliris in pediatric patients with aHUS, which follows the previously presented positive results of a retrospective study in pediatric patients with aHUS.[9] This open-label, prospective, single-arm, multinational trial enrolled a heterogeneous population of patients who were >1 month old and <18 years of age. It included 22 pediatric patients with aHUS, of whom 16 (73%) were newly diagnosed. Prior PE/PI was not required for inclusion in the study. Most patients enrolled in the study (12/22, 55%) received Soliris as their first aHUS specific treatment and had not received plasma exchange or infusion (PE/PI) therapy prior to Soliris therapy. Two patients (9%) had received a prior kidney transplant. The primary endpoint of the study was the proportion of patients with a complete TMA response, defined as platelet count normalization, lactate dehydrogenase (LDH) normalization, and $\geq$25% improvement in serum creatinine from baseline, during 26 weeks of treatment.[1]

In the study, the median time from current manifestation of aHUS to first dose of Soliris was six days. Nineteen patients (86%) completed the initial 26 weeks of Soliris therapy, and 14 of 22 patients (64%) achieved the study's primary endpoint of complete TMA response at 26 weeks, which required significant improvement in renal function ($\geq$25% decrease in creatinine). Platelet count normalization was achieved in 21 of the 22 patients (95%); the median time to platelet count normalization was seven days and the mean improvement in platelet count from baseline was 164 $x10^9$/L ($p<0.0001$). Hematologic normalization was observed in 18 of 22 patients (82%). Of the 10 patients on PE/PI at baseline, all (100%) discontinued by the end of the 26-week study.[1]

In terms of renal parameters, the mean estimated glomerular filtration rate (eGFR) increase from baseline was 64 mL/min/1.73m^2 ($P<0.001$) and 19 patients (86%) achieved an improvement in eGFR from baseline of at least 15 mL/min/1.73m^2 after 26 weeks. By Week 26, 16 patients (73%) had experienced at least a 25% decrease from baseline in serum creatinine. Importantly, 9 of 11 patients (82%) who were on dialysis at baseline discontinued dialysis for the duration of the study and all 12 patients who were not on dialysis at baseline continued dialysis-free through 26 weeks.[1]

"This was the first prospective study of pediatric patients with aHUS, and demonstrated that chronic Soliris treatment led to rapid and sustained improvement in platelet counts and significant improvement in kidney function, including discontinuation of dialysis," said Larry Greenbaum, M.D., Ph.D., Director of Pediatric Nephrology at Emory University and Children's Healthcare of Atlanta.[10] "The safety and efficacy demonstrated in this prospective trial confirm the results observed in the previous retrospective pediatric study as well as the published Phase 2 prospective adult trials, and support the recommendation of Soliris as a first-line treatment in children with aHUS."

Soliris was generally well tolerated in the study. The most common adverse events (AEs) were fever (50%) and cough (36%). One patient had a human anti-human antibody response, and continued chronic Soliris treatment without apparent adverse effect. There were no meningococcal infections and no deaths during the 26-week study.[1]

Soliris in Adult Patients with aHUS (Abstract FR-OR057)

In an oral presentation on November 8, researchers presented positive new data from the largest prospective trial of Soliris in adult patients with aHUS. This open-label, single-arm, multinational trial enrolled 41 adult patients with aHUS representing a broad patient population. Prior PE/PI was not

required for inclusion in the study, and the median time from aHUS manifestation to first dose of Soliris was approximately 2 weeks. Thirty of 41 patients (73%) in the study were newly diagnosed, six patients (15%) had no PE/PI during the current clinical manifestation, 24 patients (59%) were on dialysis at baseline, nine patients (22%) had a prior kidney transplant, and 20 patients (49%) had an identified complement factor mutation. All endpoints were evaluated at 26 weeks of treatment in an intent-to-treat analysis, and 38 (93%) of enrolled patients completed the 26-week study period. The primary endpoint of the study was the proportion of patients with complete TMA response, as measured by platelet count normalization, LDH normalization and preservation of renal function (<25% increase in serum creatinine from baseline), at 26 weeks.[2]

The study met its primary endpoint, with 30 of 41 patients (73%) achieving a complete TMA response at 26 weeks. Forty of 41 patients (98%) achieved platelet count normalization (≥150 $x10^9$/L) by week 26, and the mean increase in platelet count from baseline was 135$x10^9$/L (*P*<0.0001), demonstrating inhibition of TMA.[2]

Soliris significantly improved renal function with a mean increase in eGFR from baseline of 29 mL/min/1.73m^2 (*P*<0.0001). Most importantly, of the 24 patients who were on dialysis at baseline, 20 patients (83%) discontinued dialysis by week 26.[2]

"This is the largest study in aHUS and the results confirm those from previous prospective trials, in which ongoing Soliris treatment led to sustained inhibition of complement-mediated TMA, rapid and sustained improvements in hematological parameters, and continued, on-going improvement in renal function in adult patients with aHUS," said Fadi Fakhouri, M.D., Ph.D., Centre Hospitalier Universitaire de Nantes, Nantes, France.[11] "Results from this study also support the recent guidelines recommending immediate treatment with Soliris in adults with aHUS once an unequivocal diagnosis has been made."

Soliris was generally well tolerated in the study. The most common AEs were headache (37%), diarrhea (32%) and peripheral edema (22%). There were two cases of meningococcal infections; both patients recovered, with one patient continuing on Soliris therapy and one discontinuing therapy with subsequent deterioration of renal function that necessitated dialysis support. There were no deaths in the study.[2]

Soliris in aHUS Patients with a Long Duration of Disease and Chronic Kidney Damage (Previously Receiving Prolonged PE/PI): Three-year Update (Abstract SA-PO850)

In a poster presentation today, researchers presented findings from a three-year update of a prospective, open-label, single-arm Phase 2 trial of Soliris in 20 adult and adolescent patients with a long duration of aHUS and chronic kidney disease (CKD) 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; 16 patients were treated for 30 months or more and 10 patients remained enrolled in the trial at 3 years. Patients were evaluated for a median duration of 156 weeks. The co-primary endpoints were TMA event-free status and hematologic normalization.[3]

According to investigators, in aHUS patients with long disease duration and CKD, long-term treatment with Soliris led to improvements in hematologic and renal function over 3 years. Treatment with Soliris resulted in achievement of TMA event-free status (at least 12 consecutive weeks of stable platelet count, no PE/PI, and no new dialysis) and hematologic normalization in most patients by 3 years. By the 3-year

update, 19 of 20 patients (95%) had achieved TMA event-free status and 18 of 20 (90%) had achieved hematologic normalization. Significant improvements in eGFR were observed by week 4 (*P*<0.01). Additionally, Soliris treatment maintained long-term improvement in patients' quality of life, as measured by the EuroQoL5D (EQ-5D) scale, at 3 years (*P*=0.0001). Soliris therapy was safe and there were no meningococcal infections in patients over 3 years of treatment.[3]

"These data indicate that significant and time-dependent improvement in kidney function can be obtained with long-term eculizumab therapy, even in aHUS patients with a history of chronic kidney damage," stated Yahsou Delmas, M.D., Ph.D., at Nephrology Unit, Clearing University Hospital, Bordeaux in Bordeaux, France.[12]

Soliris in aHUS Patients with Progressing TMA Despite Intensive PE/PI: Three-year Update (Abstract SA-PO852)

In another poster presented today, researchers presented results from a three-year update of a prospective, open-label, single-arm Phase 2 study in 17 adult and adolescent patients with aHUS who had presented with active, progressing TMA. 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.[4]

In patients with aHUS and clinical evidence of progressing TMA, investigators reported that long-term Soliris treatment inhibited complement-mediated TMA, as measured by rapid and sustained improvement in platelet count over three years (mean change from baseline, P=0.0001 at 26 weeks and P<0.0001 at 3 years), as well as early achievement of hematologic normalization and TMA event-free status (at least 12 consecutive weeks of stable platelet count, no PE/PI, and no new dialysis). Additionally, long-term Soliris treatment was associated with a rapid and sustained improvement in mean change of eGFR over 3 years (mean change from baseline, 32 ml/min/1.73m^2, P=0.001 at 26 weeks and 38 ml/min/1.73m^2, P<0.0001 at the three-year update).[4]

"The three-year safety and efficacy update data from this study highlight the durability of Soliris and support the benefit of continued therapy in patients with aHUS," concluded A. Osama Gaber, Professor of Surgery at Weill Cornell Medical College and Director of the Methodist J.C. Walter Transplant Center at The Methodist Hospital in Houston, Texas.[13] "The data also support that continued treatment with Soliris maintains beneficial long-term patient outcomes and in patients at risk from life-threatening complications of TMA."

Initial Patient Characteristics from Global aHUS Registry (Abstract SA-PO853)

Also on November 9, Christoph Licht, M.D., FASN, Associate Professor of Paediatrics, Division of Nephrology at The Hospital for Sick Children, University of Toronto, presented baseline demographics from the initial patients enrolled in the global aHUS Registry, which was established in April 2012 to prospectively collect information on patients with aHUS. As of September 2013, a total of 211 patients had enrolled in the global aHUS patient registry. The results and analyses collected within the Registry will increase awareness and understanding of aHUS disease history and progression in order to help optimize care and improve quality of life for patients with aHUS.[5]

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.[14,15] 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.[14,16] 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).[8,17] 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.[18]

aHUS affects both children and adults. 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.[7]

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 (2007), European Union (2007), Japan (2010) and other countries as the first and only treatment for patients with paroxysmal nocturnal hemoglobinuria (PNH), a debilitating, 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 (2011), European Union (2011), and Japan (2013) as the first and only treatment for patients with atypical hemolytic uremic syndrome (aHUS), a debilitating, ultra-rare and life-threatening genetic disorder characterized by complement-mediated thrombotic microangiopathy, or TMA (blood clots in small vessels). 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, the preliminary results of which are reported here at ASN, 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). For the breakthrough innovation in complement inhibition, Alexion and Soliris have 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 nearly 50 countries for the treatment of PNH, and in the United States, European Union, Japan and other countries for the treatment of aHUS. Alexion is evaluating other potential indications for Soliris in additional severe and ultra-rare disorders beyond PNH and aHUS, and is developing other highly innovative biotechnology product candidates across multiple therapeutic areas. 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 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, 2013, 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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Contacts

Alexion Pharmaceuticals, Inc.
Irving Adler, 203-271-8210
Executive Director, Corporate Communications
or
Media:
Alexion Pharmaceuticals, Inc.
Kim Diamond, 203-439-9600
Senior Director, Corporate Communications
or
Investors:
Rx Communications
Rhonda Chiger, 917-322-2569