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New Clinical Trial Data Show Substantial Improvement with Eculizumab (Soliris®) in Patients with STEC-HUS

— 28-Week Data from Full Cohort of 198 Patients Show Rapid and Sustained Improvement in Thrombotic Microangiopathy (TMA) and Reversal of Organ Damage —

— Improvements in Key Secondary Endpoints Also Reported at the ASN Annual Meeting —

CHESHIRE, Conn.--(BUSINESS WIRE)-- Alexion Pharmaceuticals, Inc. (Nasdaq: ALXN) today announced the presentation of 28-week data from all enrolled patients in a multi-center trial of eculizumab (Soliris®) in patients who developed Shiga-toxin-producing *E. coli* hemolytic uremic syndrome (STEC-HUS) during an outbreak in Germany from May 2011 to July 2011. In the study, eculizumab therapy was associated with rapid and sustained clinical improvements in thrombotic microangiopathy (TMA) and systemic organ complications. The study met its primary endpoint of global assessment of efficacy at 8 weeks with 94% of patients achieving a complete or partial response in systemic TMA and vital organ involvement. Key secondary endpoints were also met with high clinical and statistical significance, including global assessment of efficacy at 28 weeks as well as improvement in hematologic, renal and neurologic functions. Preliminary findings from an exploratory *post hoc*, matched-control analysis of patients with severe STEC-HUS receiving eculizumab versus other patients who received current best supportive care during the German epidemic were also reported, and showed that eculizumab treatment was associated with consistently higher rates of renal and neurological function improvement at weeks 8 and 28.[1]

The eculizumab 28-week data, presented today at Kidney Week 2012, the annual meeting of the American Society of Nephrology (ASN) in San Diego, were consistent with previously presented interim data, in which 148 of the overall 198 patients with STEC-HUS treated with eculizumab were reported to have experienced substantial improvement in systemic TMA and vital organ complications 8 weeks following treatment initiation with eculizumab.[2]

"In the study, patients had a robust response to eculizumab therapy. Patients achieved a substantial improvement in systemic TMA and vital organ involvement as early as 8 weeks, which was sustained through 28 weeks," said Rolf Stahl, M.D., Chairman, Department of Nephrology, University Hospital Hamburg-Eppendorf UKE and lead investigator of the trial. "The rapid, sustained reduction in TMA and reversal of organ damage with eculizumab supports the important role of uncontrolled complement activation in the severe morbidities associated with STEC-HUS."

STEC-HUS is a life-threatening disease characterized by systemic complement-mediated TMA and acute vital organ damage that can lead to serious, long-term complications. In STEC-HUS, Shiga toxin induces uncontrolled complement activation, resulting in systemic TMA and inflammation, which in turn leads to multi-organ damage and death during the acute phase of the disease.[3-9] Patients with STEC-HUS can also experience rapid and unpredictable disease progression.[10-13] TMA-related organ damage can lead to long-term complications.[14]

"STEC-HUS is an unpredictable, life-threatening disease with a high rate of long-term serious clinical sequelae and no approved treatment options that address the underlying pathogenesis of the disease," said Stephen P. Squinto, Ph.D., Executive Vice President, Head of Research and Development at Alexion.

Eculizumab is approved in over 40 countries as a treatment for patients with paroxysmal nocturnal hemoglobinuria (PNH) and in the United States and European Union for patients with atypical hemolytic uremic syndrome (aHUS). PNH and aHUS are both debilitating and life-threatening ultra-rare disorders caused by chronic, uncontrolled complement activation. Eculizumab is not approved for the treatment of STEC-HUS in any country and was used in the reported study on an investigational basis.

About the Eculizumab Study

The 28-week, open-label, multi-center trial enrolled 198 STEC-HUS patients at 23 clinical trial sites with TMA (platelet decrease and evidence of hemolysis) and organ complications (evidence of kidney or central nervous system complications, or thrombosis). All patients showed severe, progressive disease at baseline: 96% had kidney involvement, 84% had brain involvement, 80% had involvement of both brain and kidney, 26% had seizures, 24% required respiratory support with mechanical ventilation, and 21% were in a coma. In addition, 91% of patients were receiving plasma exchange and 72% required dialysis at baseline prior to receiving eculizumab. Patients enrolled in the study received 900 milligrams (mg) of eculizumab each week for the first 3 weeks, followed by a 1200 mg dose on weeks 4, 6, and 8. After an initial 8-week eculizumab treatment period, study investigators were able to request treatment with eculizumab 1200 mg every other week for

an additional 8 weeks. All patients in the study were observed for 28 weeks following eculizumab treatment initiation.[1]

Nearly all (94%) of the eculizumab-treated patients had a global response to therapy by 8 weeks, prospectively defined as either a complete response (CR), which consisted of hematologic normalization, clinically important improvement in all affected vital organs, and no clinically important worsening in any vital organ; or a partial response (PR), consisting of hematologic improvement or normalization and no clinically important worsening in any vital organ. Specifically, at 8 weeks, 80% of patients had a CR and 14% had a PR. By week 28, the overall response of 94% was sustained, and there was an increased rate of complete response from 80% to 89% between weeks 8 and 28.[1]

Results of the study also showed[1]:

- Rapid improvement in platelet count with eculizumab treatment, which was worsening prior to eculizumab.
- Rapid improvement in renal function with eculizumab treatment, as measured by normalization in serum creatinine, which was worsening prior to eculizumab.
- Elimination of dialysis and plasma exchange with eculizumab therapy: 84% of patients who required dialysis at baseline (115/137) discontinued dialysis by 3 weeks of eculizumab therapy. By week 8, 96% of patients had discontinued dialysis and by week 28, 99% of patients had discontinued dialysis. All of the patients who required plasma exchange at baseline (181/181) had discontinued plasma exchange by 4 weeks of eculizumab therapy.
- Improvement in neurological complications with eculizumab treatment: By week 8, 64% of patients had neurological normalization, defined as a shift from ≥2 at baseline on the Modified Rankin Scale (MRS), which measures neurologic morbidity, to a MRS score of 0-1 with eculizumab. By week 28, 91% of patients achieved MRS normalization.
- By week 28, 100% of patients were out of coma (35/35), 100% were free of seizures (43/43) and 100% had discontinued mechanical ventilation (47/47).

Eculizumab appeared to be well-tolerated in the study, with the three most common adverse events being headache, hypertension, and, alopecia. Most adverse events were reported as mild or moderate. There were no reported cases of meningococcal infection in the trial and no reported deaths. The study investigators determined that the adverse events in the trial were consistent with expected clinical STEC-HUS presentation.[1]

***Post Hoc* Matched-Control Analysis**

An exploratory *post hoc*, matched-control analysis was performed based on data from patients with severe STEC-HUS who received eculizumab in this study (23 German sites) versus other patients who received current best supportive care only during the German epidemic (4 German sites). Patients were matched for specific baseline markers of disease severity, including organ involvement, neurologic involvement, dialysis and thrombocytopenia (a marker of ongoing TMA). The preliminary results showed that eculizumab treatment was associated with consistently higher rates of renal and neurological function improvement at weeks 8 and 28 compared to matched patients not treated with eculizumab.[1]

About STEC-HUS

STEC-HUS is an ultra-rare and life-threatening disease due to uncontrolled complement activation which causes platelet activation, thrombosis (blood clots), hemolysis (red blood cell destruction), and inflammation in small blood vessels throughout the body, a process known as systemic thrombotic microangiopathy, or systemic TMA.[15] Due to systemic TMA, STEC-HUS patients are at risk of early, progressive and unpredictable damage to multiple vital organs including the brain, heart, lungs, kidneys and organs of the gastrointestinal system. This severe organ damage can cause significant and long-term morbidity in affected patients, and can also lead to mortality from STEC-HUS.[16,17]

Although similar in its life-threatening TMA clinical manifestations, STEC-HUS and the atypical form of hemolytic uremic syndrome (aHUS) are different diseases. aHUS is a life-long genetic disease with uncontrolled complement activation while in STEC-HUS the uncontrolled complement activation follows an isolated episode of infection by enterohemorrhagic *Escherichia coli* (EHEC).

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 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 also approved in the US and the European Union 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 its 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 currently indicated for the treatment of patients with 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 STEC-HUS. 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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Alexion Pharmaceuticals, Inc.
Irving Adler, 203-271-8210
Executive Director, Corporate Communications
or
Media:
Alexion Pharmaceuticals, Inc.
Kim Diamond, 203-439-9600
Director, Corporate Communications
or
Investors:
Rx Communications
Rhonda Chiger, 917-322-2569

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