March 19, 2013

BioMarin to Advance BMN-701 for Pompe Disease to Next Phase of Development

BMN-701 Meaningfully Improves Respiratory Endpoints
Phase 2/3 Switch Study Expected to Begin by December 2013

Conference Call and Webcast to Be Held Today at 5:00 p.m. ET

SAN RAFAEL, Calif., March 19, 2013 (GLOBE NEWSWIRE) -- BioMarin Pharmaceutical Inc. (Nasdaq:BMRN) announced today results from POM-001, the Phase 1/2 trial for BMN-701, a fusion protein of insulin-like growth factor 2 and acid alpha-glucosidase (IGF2-GAA) for the treatment of late-onset Pompe disease. The results exceeded the company's pre-specified requirements for proceeding to the next phase of development by showing that in the 20 mg/kg every other week dose cohort, three out of 16 patients, or 19 percent, had a greater than 75 meter improvement in 6-minute walk distance, and that there was a 14.1 percent relative improvement in Maximal Expiratory Pressure (MEP) and a 27.0 percent relative improvement in Maximal Inspiratory Pressure (MIP) from pre-treatment baseline to week 24, two important measures of overall respiratory muscle function and strength. Pending a review with regulatory authorities, the company expects to continue development of BMN-701 by initiating a Phase 2/3 switching trial by the end of 2013 in late-onset Pompe patients who have previously been treated with alglucosidase alfa (Myozyme®/Lumizyme®).

"More than half of late-onset Pompe patients require ventilatory assistance, and many more patients have impairments directly related to weakness of breathing muscles. This means that a therapy that improves respiratory muscle function substantially would be important and welcome and could help delay premature death in Pompe disease," said Professor Benedikt Schoser of the Friederich-Baur Institute and speaker of the German working group for Pompe disease.

"The findings from this study point the way forward for a potentially meaningful advance in the management of late-onset Pompe patients. Pompe is a disease that destroys muscle tissue throughout the body, including the muscles of respiration. Maximal Expiratory Pressure (MEP) and Maximal Inspiratory Pressure (MIP) are direct measures of respiratory muscle function and likely an important indicator of a drug's effectiveness in this setting. The improvements in MEP and MIP that BMN-701 patients demonstrated is a unique and important finding," said Barry Byrne, M.D., Ph.D., Professor, Pediatrics and Molecular Genetics & Microbiology and Director, University of Florida Powell Center, and lead investigator for POM-001. "If treatment with BMN-701 results in improvements in these important respiratory functional measures in patients who have already experienced a maximal benefit from current therapy, BMN-701 could become an important treatment option," Byrne said.

Phase 1/2 Study: Efficacy and Safety

The mean improvement in 6-minute walk distance was approximately 22 meters for the 16 patients treated in the 20 mg/kg cohort. In addition, there were three super-responders, or 19 percent of patients, who experienced greater than a 75 meter improvement in 6-minute walk distance from baseline to week 24. For pulmonary function, mean improvement in percent predicted forced vital capacity (FVC) was 1.2 percent in absolute terms, or a 2.0 percent relative improvement from pre-treatment baseline to week 24. Mean improvement in maximum voluntary ventilation (MVV) was 2.9 L/min in absolute terms, or a 4.3 percent relative improvement from pre-treatment baseline to week 24. Mean improvement in percent predicted maximal expiratory pressure (MEP) was 5.1 percent in absolute terms, or a 14.1 percent relative improvement from pre-treatment baseline to week 24. Mean improvement in percent predicted maximal inspiratory pressure (MIP) was 11.0 percent in absolute terms, or a 27.0 percent relative improvement from pre-treatment baseline to week 24. The company conducted a responder analysis in which each patient was assigned a score of plus one for improvement of more than 10 percent and minus one for a decline of 10 percent in the domains of 6-minute walk test, MEP and MIP. Each patient's scores were aggregated by summing the individual domain scores for that patient. Thirteen of the 16 patients scored a plus one or greater; two patients had a score of 0, consistent with stabilization, and one patient declined in one domain.

Side effects for BMN-701 were generally consistent with those seen for other enzyme replacement therapies. The principal clinical adverse event was infusion-associated reaction in two patients, resulting in temporary drug interruption in one patient and drug withdrawal in one patient. Infusion-associated hypoglycemia, an expected pharmacologic effect of BMN-701, occurred in 13 patients in the 20 mg/kg cohort. All hypoglycemia events occurred during or within one hour of infusion, were transient and readily manageable through diet and predominantly asymptomatic.

Table: BMN-701 Phase 1/2 Results as Compared to LOTS Study*

	POM-001 BMN-701			LOTS Alglucosidase Alfa		
	Baseline	Change from baseline at Week 24	% Chg	Baseline	Change from baseline at Week 26	% Chg
Endurance:						
Avg. 6MWT (meters)	354.5	22.3	6.3%	332.2	28.5	8.6%
Super Responders	n= 16	3	18.8%	n=60	4	6.7%

	POM-001 BMN-701				LOTS Alglucosidase Alfa			
	Baseline	Week 24	Change % predicted	% Chg from baseline	Baseline	Week 26	Change % predicted	% Chg from baseline
Pulmonary								
FVC	58.1%	59.3%	1.2%	2.0%	55.4%	56.9%	1.5%	2.7%
MVV (L/min)	67.6	70.6	2.9	4.3	na	na	na	na
MEP	36.4%	41.6%	5.1%	14.1%	32.0%	34.6%	2.6%	8.0%
MIP	40.6%	51.6%	11.0%	27.0%	40.0%	45.0%	5.0%	12.5%

*The LOTS trial (N Engl J Med 2010;362:1396-406) was a randomized, placebo-controlled trial of alglucosidase alfa, recombinant human GAA, for the treatment of late-onset Pompe's disease. Ninety patients who were eight years of age or older, ambulatory, and free of invasive ventilation were randomly assigned to receive biweekly intravenous alglucosidase alfa (20 mg/kg) or placebo. The two primary endpoints were 6-minute walk distance and percentage of predicted forced vital capacity (FVC). Comparison to LOTS study data roughly estimated at week 26 are presented to provide additional information regarding BioMarin's decision making process for the continued development of BMN-701. As the trials were independently conducted and utilized different protocols, no inference should be made about the comparative efficacy of the products tested.

"We are excited by the findings of our first study of BMN-701 in previously untreated Pompe patients. We observed meaningful improvements in mean 6-minute walk distance and very substantial walk improvements for some patients, plus significant improvements in respiratory muscle strength. Importantly, there were improvements in one or more walk or respiratory domains in nearly all patients. Based on discussions with Pompe KOLs who have reviewed this data, we believe there will be broad interest to participate in our planned Phase 2/3 study," said Hank Fuchs, M.D., Chief Medical Officer of BioMarin.

Next Phase of Development: Phase 2/3 Study

The company expects to initiate a Phase 2/3 switching trial by the end of 2013 in late-onset Pompe patients who have previously been treated with alglucosidase alfa. Subject to discussions with health authorities, the proposed study design is a single arm trial, with treatment at 20 mg/kg administered every other week for 24 weeks. The company intends to use efficacy as measured by the respiratory parameter MIP as the primary endpoint. Secondary objectives include MEP and six-minute walk test, as well as safety. The study will be conducted with full scale material from a revised manufacturing process, which has improved process robustness and increased productivity.

POM-001 Phase 1/2 Study Design

The Phase 1/2 trial is an open-label study to evaluate the safety, tolerability, pharmacokinetics, pharmacodynamic and clinical activity of BMN-701 administered as an intravenous infusion every two weeks at doses of 5 mg/kg, 10 mg/kg and 20 mg/kg. The company enrolled 22 patients between the ages of 18 and 65 years old with late-onset Pompe disease for a treatment period of 24 weeks.

Conference Call Details

BioMarin will host a conference call and webcast today, Tuesday, March 19, 2013 at 5:00 p.m. ET. This event can be accessed on the investor section of the BioMarin website at www.BMRN.com.

Date: March 19, 2013
Time: 5:00 p.m. ET

U.S. / Canada Dial-in Number: (877) 303-6313
International Dial-in Number: (631) 813-4734

Conference ID: 24529793

Replay Dial-in Number: (855) 859-2056
Replay International Dial-in Number: (404) 537-3406
Conference ID: 24529793

About Pompe Disease

Pompe Disease is an autosomal recessive metabolic disorder which damages muscle and nerve cells throughout the body. It is caused by an accumulation of glycogen in the lysosome due to deficiency of the lysosomal acid alpha-glucosidase enzyme. The build-up of glycogen causes progressive muscle weakness (myopathy) throughout the body and affects various body tissues, particularly in the heart, skeletal muscles, liver and nervous system. Measurement of maximal inspiratory and expiratory pressures are used to assess pulmonary muscle function. Maximal inspiratory pressure (MIP) is the maximal pressure that can be produced by the patient trying to inhale through a blocked mouthpiece. Maximal expiratory pressure (MEP) is the maximal pressure measured during forced expiration through a blocked mouthpiece after a full inhalation. Current treatment options for Pompe disease include Lumizyme and Myozyme. On April 28, 2006 the US Food and Drug Administration approved a Biologic License Application (BLA) for Myozyme (alglucosidase alfa, rhGAA),the first treatment for patients with Pompe disease. On May 26, 2010 FDA approved Lumizyme, a similar version of Myozyme, for the treatment of late-onset Pompe disease. Lumizyme and Myozyme have the same generic ingredient (Alglucosidase Alfa). Myozyme is made using a 160-L bioreactor, while the Lumizyme uses a 4000-L bioreactor.

About BioMarin

BioMarin develops and commercializes innovative biopharmaceuticals for serious diseases and medical conditions. The company's product portfolio comprises four approved products and multiple clinical and pre-clinical product candidates. Approved products include Naglazyme® (galsulfase) for mucopolysaccharidosis VI (MPS VI), a product wholly developed and commercialized by BioMarin; Aldurazyme® (laronidase) for mucopolysaccharidosis I (MPS I), a product which BioMarin developed through a 50/50 joint venture with Genzyme Corporation; Kuvan® (sapropterin dihydrochloride) Tablets, for phenylketonuria (PKU), developed in partnership with Merck Serono, a division of Merck KGaA of Darmstadt, Germany; and Firdapse™ (amifampridine), which has been approved by the European Commission for the treatment of Lambert Eaton Myasthenic Syndrome (LEMS). Product candidates include BMN-110 (N-acetylgalactosamine 6-sulfatase), formally referred to as GALNS, which successfully completed Phase III clinical development for the treatment of MPS IVA, PEG-PAL (PEGylated recombinant phenylalanine ammonia lyase), which is currently in Phase II clinical development for the treatment of PKU, BMN-701, a novel fusion protein of insulin-like growth factor 2 and acid alpha glucosidase (IGF2-GAA), which is currently in Phase I/II clinical development for the treatment of Pompe disease, BMN-673, a poly ADP-ribose polymerase (PARP) inhibitor, which is currently in Phase I/II clinical development for the treatment of genetically-defined cancers, and BMN-111, a modified C-natriuretic peptide, which is currently in Phase I clinical development for the treatment of achondroplasia. For additional information, please visit www.BMRN.com. Information on BioMarin's website is not incorporated by reference into this press release.

The BioMarin Pharmaceutical Inc. logo is available at http://www.globenewswire.com/newsroom/prs/?pkgid=11419

Forward-Looking Statement

This press release contains forward-looking statements about the business prospects of BioMarin Pharmaceutical Inc., including, without limitation, statements about: the development of BioMarin's BMN-701 program generally, the timing and design of the planed Phase 3 trial of BMN-701, and expectations regarding the final results of the Phase 2 trial following final statistical analysis. These forward-looking statements are predictions and involve risks and uncertainties such that actual results may differ materially from these statements. These risks and uncertainties include, among others: differences in the final analysis of the data from the BMN-701 Phase 1/2 trial, results and timing of current and planned preclinical studies and clinical trials of BMN-701; the content and timing of decisions by the U.S. Food and Drug Administration, the European Commission and other regulatory authorities; BioMarin's ability to secure clinical trial sites to perform the Phase 3 trial and the ability to enroll patients into those trials; the ability to timely manufacture suitable clinical trial material using the revised manufacturing process and those factors detailed in BioMarin's filings with the Securities and Exchange Commission, including, without limitation, the factors contained under the caption "Risk Factors" in BioMarin's Annual Report on Form 10-K for the Year ended December 31, 2012. Stockholders are urged not to place undue reliance on forward-looking statements, which speak only as of the date hereof. BioMarin is under no obligation, and expressly disclaims any obligation to update or alter any forward-looking statement, whether as a result of new information, future events or otherwise.

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