

**FOR IMMEDIATE RELEASE**



Contact:  
Thomas A. Collet  
President and CEO  
Phrixus Pharmaceuticals, Inc.  
+1 (734) 358-9015  
thomas.collet@phrixuspharmaceuticals.com

**Phrixus Pharmaceuticals receives services from National Institutes of Health, NHLBI SMARTT Program to produce Carmeseal-MD™ for clinical trial to treat Duchenne muscular dystrophy**

*- Carmeseal-MD™ (P-188 NF) to be tested in US multicenter study starting in early 2016, already available under European Access Program -*

**ANN ARBOR, MI – XX June 2015** – Phrixus Pharmaceuticals, Inc., today announced that the NIH National Heart, Lung, and Blood Institute (NHLBI) SMARTT Program will provide services to produce clinical-grade Carmeseal-MD™ (P-188 NF) for the company’s first study involving non-ambulatory boys with Duchenne muscular dystrophy (DMD). SMARTT stands for “Science Moving towards Research Translation and Therapy.” The program is designed to facilitate the development of promising new therapies such as Carmeseal-MD™, which has the potential to protect the heart from the damaging effects of DMD.

“Duchenne muscular dystrophy is a debilitating and fatal genetic disease,” said SMARTT Project Officer Dr. Narasimhan Danthi. “Significant heart disease is present in a majority of patients by age 18, and once the heart damage occurs, it is irreversible. Interventions that slow or stop this process are needed.”

Thomas A. Collet, President and Chief Executive Officer of Phrixus, emphasized that time is of the essence for the patients. “The sooner they receive treatment for this disease the better will be their prospects for survival,” he said.

Collet explained that the manufacture of clinical-grade Carmeseal-MD is the last step before the Food and Drug Administration will accept Phrixus’s investigational new drug application (or IND) in anticipation of beginning the first trial of the drug in the US in early 2016. Preclinical studies of Carmeseal-MD in the U.S. were funded by NHLBI’s Small Business Innovation Research grants program. Currently, Carmeseal-MD™ is available in Europe as part of Phrixus’s European Access Program.

For further information, please contact Phrixus’s European distributor Ethicor Pharma Ltd. at [enquiries@ethicorpharma.com](mailto:enquiries@ethicorpharma.com). For more information on Ethicor, please visit [www.ethicorpharma.com](http://www.ethicorpharma.com).

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### ***About Carmeseal-MD™***

Carmeseal-MD (Poloxamer 188 NF) has been in clinical development for unrelated indications and has been used as excipient for several decades. In animal models of DMD, it has been shown to improve the efficiency of damaged hearts and to improve the performance of damaged diaphragms with once-a-day subcutaneous administration at low doses. When infused into the bloodstream, it encounters and binds to microscopic tears in the muscle. This prevents the pathological leakage of calcium into the cells, which causes calcium overload and keeps the muscle from performing as required. Carmeseal-MD is expected to have its effect in patients with DMD irrespective of the genetic defect that causes the disease.

### ***About Duchenne muscular dystrophy (DMD)***

DMD is the most devastating of the muscular dystrophies. It is a genetic disease that affects about 20,000 boys and young men in the United States and a comparable number in Europe. The hallmarks of DMD are skeletal muscle weakness, followed by respiratory distress and heart failure. As a degenerative disease, it inevitably leads to premature death, most commonly through respiratory failure but now increasingly through heart failure.

### ***About Phrixus Pharmaceuticals, Inc.***

Phrixus Pharmaceuticals, Inc. is developing Carmeseal as Carmeseal-MD™ (P-188 NF for subcutaneous injection) for DMD and as Carmeseal-HF™ (P-188 NF for intravenous administration) for acute decompensated heart failure. Phrixus has assembled the leading global patent portfolio for the use of poloxamers in DMD, heart failure and respiratory dysfunction. For more information: Thomas A. Collet, [thomas.collet@phrixuspharmaceuticals.com](mailto:thomas.collet@phrixuspharmaceuticals.com) or [www.phrixuspharmaceuticals.com](http://www.phrixuspharmaceuticals.com).

### **Forward-Looking Statement Disclaimer**

This announcement may contain, in addition to historical information, certain forward-looking statements that involve risks and uncertainties. Such statements reflect management's current views and are based on certain assumptions. Actual results could differ materially from those currently anticipated as a result of a number of factors. The company is developing several products for potential future marketing. There can be no assurance that such development efforts will succeed, that such products will receive required regulatory clearance or that, even if such regulatory clearance were received, such products would ultimately achieve commercial success.

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