

December 11, 2017



## **Emmaus Medical, Inc. Announces Availability of Endari™ for Treatment of Sickle Cell Disease**

ATLANTA--(BUSINESS WIRE)-- Today at the 59th Annual Meeting of the American Society of Hematology (ASH) in Atlanta, Georgia, Emmaus announced availability of Endari (L-glutamine oral powder) for sickle cell disease treatment.

Endari will be available starting the week of December 17<sup>th</sup> through US Bioservices, a national specialty pharmacy. Endari is packaged in 5-gram packets that allow for exact dosing of 10, 20 or 30 grams daily, taken in two equally divided doses.

Endari is the first treatment approved by the U.S. Food and Drug Administration (FDA) for pediatric patients with sickle cell disease, and the first new treatment approved by the FDA in nearly 20 years for adult patients. The therapy is available by prescription only. Endari demonstrated a significant reduction in the number of sickle cell crises, days hospitalized, and acute chest syndrome, in a pivotal phase 3 clinical trial conducted over the 48 weeks.

“Endari represents the first advancement in sickle cell treatment in nearly 20 years, and the first ever for children,” said Yutaka Niihara, MD, MPH, Chairman and Chief Executive Officer of Emmaus Life Sciences. “We are proud to make this rare disease treatment available to patients suffering with sickle cell disease.”

“We are pleased to see that after years of research, Endari will soon be available to sickle cell patients in this country,” said Dr. David Meyer, President and CEO of LA Biomed, “We are proud that this breakthrough therapy was developed by Dr. Yutaka Niihara and his team at LA Biomed, and we are optimistic about the impact this new drug will have on the lives of many patients suffering with this disease.”

Endari is indicated to reduce the acute complications of sickle cell disease in adult and pediatric patients 5 years of age and older. The most common adverse reactions occurring in greater than 10 percent of patients receiving Endari in clinical studies were constipation, nausea, headache, abdominal pain, cough, pain in the extremities, back pain, and chest pain. Endari should only be taken under the direction of a physician. Endari has received Orphan Drug designation in the U.S. and Orphan Medicinal Product designation in the EU.

Emmaus is actively working with payers to ensure coverage and access for patients with sickle cell disease.

### **About Sickle Cell Disease**

Sickle Cell Disease is an inherited blood disorder characterized by the production of an

altered form of hemoglobin which polymerizes and becomes fibrous, causing red blood cells to become rigid and change form so that they appear sickle shaped instead of soft and rounded. Patients with Sickle Cell Disease suffer from debilitating episodes of sickle cell crises, which occur when the rigid, adhesive and inflexible red blood cells occlude blood vessels. Sickle cell crises cause excruciating pain as a result of insufficient oxygen being delivered to tissue, referred to as tissue ischemia, and inflammation. These events may lead to organ damage, stroke, pulmonary complications, skin ulceration, infection and a variety of other adverse outcomes. Sickle Cell Disease is an orphan disease, affecting approximately 100,000 patients in the U.S. and millions worldwide with significant unmet medical needs.

### **About Emmaus Life Sciences**

Emmaus Life Sciences, Inc. is engaged in the discovery, development and commercialization of innovative treatments and therapies for rare diseases. The company's research on sickle cell disease was initiated by Yutaka Niihara, MD, MPH, Chairman and CEO of Emmaus, at the Los Angeles Biomedical Research Institute at Harbor-UCLA Medical Center. For more information, please visit [www.emmauslifesciences.com](http://www.emmauslifesciences.com).

### **Forward-Looking Statements**

This press release contains forward-looking statements as that term is defined in the Private Securities Litigation Reform Act of 1995, regarding the research, development and potential commercialization of pharmaceutical products. Such forward-looking statements are based on current expectations and involve inherent risks and uncertainties, including factors that could delay, divert or change any of them, and could cause actual outcomes and results to differ materially from current expectations. Additional risks and uncertainties are described in reports filed by Emmaus Life Sciences, Inc. with the U.S. Securities and Exchange Commission, including its Annual Report on Form 10-K and Quarterly Reports on Form 10-Q. Emmaus is providing this information as of the date of this press release and does not undertake any obligation to update any forward-looking statements as a result of new information, future events or otherwise.

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