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Emmaus, a Leader in Sickle Cell Disease Treatment, Signs Agreement with Cardinal Health to Solidify Distribution Network for Endari™ (L-glutamine oral powder)

Company Signs Fourth Major Distribution Agreement this Year

TORRANCE, Calif.--(BUSINESS WIRE)-- [Emmaus Life Sciences, Inc.](#) (Emmaus) announces it has entered into a distribution agreement with Cardinal Health (Cardinal). The agreement makes [Endari™ \(L-glutamine oral powder\)](#), indicated to reduce the acute complications of sickle cell disease in adult and pediatric patients 5 years of age and older, available nationwide to pharmacies that utilize Cardinal as their distributor. Cardinal Health connects patients, providers, payers, pharmacists and manufacturers for integrated care coordination and better patient management. Cardinal Health ranks among the top 25 on the Fortune 500.

Since launching Endari, the first U.S. FDA approved sickle cell treatment in 20 years, Emmaus has brought this therapy to patients in 36 states, Washington DC and Puerto Rico. In addition to the distributors already in place, this agreement with Cardinal will further broaden Endari's distribution, with the potential to reach many more patients suffering from the acute complications associated with sickle cell disease, such as pain and frequent hospitalizations.

"Partnering with Cardinal demonstrates the growing demand for Endari by physicians and patients alike," said Yutaka Niihara, MD, MPH, CEO and Chairman of Emmaus. "Teaming up with Cardinal solidifies our growing distribution network in the United States."

In addition to Cardinal Health, the current distribution network for Endari includes:

- [ASD Healthcare an AmerisourceBergen Company](#)
- [McKesson Plasma & Biologics](#)
- [DMS Pharmaceutical Group](#)

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 a variety of other adverse outcomes such as acute chest syndrome that requires hospitalization. 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 [Endari™ \(L-glutamine oral powder\)](#)

Indication

Endari is indicated to reduce the acute complications of sickle cell disease in adult and pediatric patients 5 years of age and older.

Important Safety Information

The most common adverse reactions (incidence >10 percent) in clinical studies were constipation, nausea, headache, abdominal pain, cough, pain in extremities, back pain, and chest pain.

Adverse reactions leading to treatment discontinuation included one case each of hypersplenism, abdominal pain, dyspepsia, burning sensation, and hot flash.

The safety and efficacy of Endari in pediatric patients with sickle cell disease younger than five years of age has not been established.

For more information, please see full Prescribing Information of Endari at:
www.ENDARlrx.com/PI

About Emmaus Life Sciences, Inc.

Emmaus Life Sciences, Inc. is a biopharmaceutical company engaged in the discovery, development and commercialization of innovative treatments and therapies primarily for rare and orphan disease. Its lead product, Endari, demonstrated positive clinical results in the completed Phase 3 clinical trial for sickle cell anemia and sickle β 0-thalassemia and has received U.S. FDA approval. Visit: <http://www.emmausmedical.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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