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# Emmaus Life Sciences Granted Patent in India for use of Pharmaceutical-grade L-glutamine in Treating Diverticulosis

## Issuance by the Indian Patent Office Further Bolsters Emmaus' International Intellectual Property Portfolio

TORRANCE, Calif., Oct. 09, 2019 (GLOBE NEWSWIRE) -- Emmaus Life Sciences, Inc. (OTCQB: EMMA), a leader in sickle cell disease treatment, announced today the allowance by the Indian Patent Office of its patent application (serial number 1255/KOLNP/2014) for methods and compositions of pharmaceutical-grade L-glutamine (PGLG) for the treatment of diverticulosis. The allowance of this application follows the issuance of corresponding patents in the United States, Europe, Japan, Australia, Mexico, China, Indonesia, South Korea and Russia. Patent applications are currently pending in various jurisdictions around the world, including Brazil.

The allowed Indian patent application reports a significant reduction in the number of intestinal diverticula, the primary indicator of diverticulosis, through the therapeutic application of PGLG. Emmaus is aware of no commercial therapies that claim an ability to reduce intestinal diverticula at the present time.

"We have seen the positive therapeutic impact of PGLG through the efficacy of our FDA approved Endari in treating sickle cell disease, and are committed to expanding its application to other indications to address a range of unmet or underserved medical needs, including the treatment of diverticulosis," said Dr. Yutaka Niihara, M.D., M.P.H., Chairman and Chief Executive Officer of Emmaus Life Sciences. "These patents provide significant intellectual property protection as we continue to expand our research and product development efforts and related clinical studies."

The covered invention is directed to methods and compositions for the treatment of diverticulosis. More specifically this patent is directed to compositions including PGLG or uses of such compositions in the treatment of diverticulosis. Diverticulosis refers to a condition where small pouches (i.e., diverticula) form along the colon wall of the digestive tract. Over time, these pouches can often become inflamed and infected (diverticulitis). Epidemiological studies indicate that the prevalence of this disease is increasing worldwide.

The estimated population of India is 1.34 billion people with 104 million people currently over the age of 60. Current population trends in India estimate the number of people over 60 years of age is forecasted to grow to 175 million by 2026. Furthermore, it is estimated that approximately 32% of the population over 60 years of age in India have diverticulosis indicating between 33 million and 56 million potential patients over the next seven years.

Emmaus announced the initiation of the company's Pilot/Phase 1 clinical study of the treatment of diverticulosis with PGLG on July 8, 2019.

**About Endari® (L-glutamine oral powder)**

Indication - Endari is indicated to reduce the acute complications of sickle cell disease in adult and pediatric patients five 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 sickle cell disease patients younger than five years of age have not been established.

For more information, please see full Prescribing Information of Endari at: [www.ENDARlrx.com/PI](http://www.ENDARlrx.com/PI).

**About Emmaus Life Sciences**

Emmaus Life Sciences, Inc., is a commercial-stage biopharmaceutical company engaged in the discovery, development, marketing and sale of innovative treatments and therapies, including those in the rare and orphan disease categories. For more information, please visit [www.emmauslifesciences.com](http://www.emmauslifesciences.com).

**Forward-Looking Statements**

This press release contains forward looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including statements regarding plans for the development of the company's product candidates. These forward looking statements are subject to risks and uncertainties inherent in drug development and assumptions relating to the company's ability to continue as a going concern, including those detailed from time to time in the company's filings with the Securities and Exchange Commission, and represent the company's views only as of the date they are made and should not be relied upon as representing the company's views as of any subsequent date. The company's actual results may differ materially from those contemplated by these forward-looking statements. The company does not undertake to update any of these forward-looking statements to reflect a change in its views or events or circumstances that occur after the date of this press release except as required by law.

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