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MatriSys Announces Positive Results from a Study of *S. felis* for the Treatment of Drug-resistant *S. pseudintermedius*

Study Affirms the Potential for Beneficial Bacteria to Treat Skin Diseases

LA JOLLA, Calif., Oct. 21, 2021 (GLOBE NEWSWIRE) -- MatriSys Bioscience, a company harnessing beneficial bacteria to treat inflammatory skin diseases, today announced the publication of research on a strain of *Staphylococcus felis* (*S. felis* C4) isolated from feline skin for the treatment of Methicillin-resistant *Staphylococcus pseudintermedius* (MRSP). Data were published in the journal *eLife* on October 19, 2021, "[Antimicrobials from a feline commensal bacterium inhibit skin infection by drug-resistant *S. pseudintermedius*](#)".

"These findings have important implications in supporting our breakthrough approach to address skin diseases by harnessing beneficial bacteria and modulating the skin microbiome," said Philippe Calais, PharmD, PhD, President and Chief Executive Officer of MatriSys. "Our team continues to be committed to exploring this novel area in dermatology to meet the needs of the millions of patients suffering from skin diseases."

Methicillin-resistant *Staphylococcus pseudintermedius* (MRSP) is an important emerging zoonotic pathogen that can colonize both human and animal skin and cause severe skin infections including atopic dermatitis. In this study, a collection of diverse staphylococcus species derived from domestic dogs and cats were screened for antimicrobial activity against MRSP. A unique strain *S. felis* C4 isolated from feline skin inhibited MRSP and multiple gram-positive pathogens. Whole genome sequencing and mass spectrometry revealed secreted antimicrobials that exhibited antimicrobial and anti-inflammatory activity. Fluorescence and electron microscopy showed that *S. felis* antimicrobials inhibited translation and disrupted bacterial, but not eukaryotic, cell membranes. Competition experiments in mice demonstrated that *S. felis* significantly reduced MRSP skin colonization and an antimicrobial extract from *S. felis* significantly reduced necrotic skin injury from MRSP infection. These findings indicate that beneficial bacteria from other species could be utilized for difficult-to-treat human skin infections.

"The low cytotoxicity and broad-spectrum antimicrobial and anti-inflammatory activity of *S. felis* C4 shown in this study positions the strain as an attractive biotherapeutic candidate for both human and animal applications," said Richard Gallo, MD, PhD, Distinguished Professor and Chairman of the Department of Dermatology, UC San Diego School of Medicine and co-founder and member of the MatriSys Scientific Advisory Board. "These positive results further reinforce the use of beneficial bacteria to treat skin diseases."

About MatriSys Bioscience

MatriSys Bioscience is leading the discovery and clinical development of a novel class of biopharmaceuticals to transform the treatment of inflammatory skin diseases. Our groundbreaking technology platform identifies beneficial bacteria derived from healthy human skin to treat the millions of children and adults suffering from difficult to treat chronic skin diseases. With our lead clinical program in patients with Atopic Dermatitis, we are also rapidly advancing therapeutics for Acne, Rosacea and other skin disorders. www.matrisysbio.com