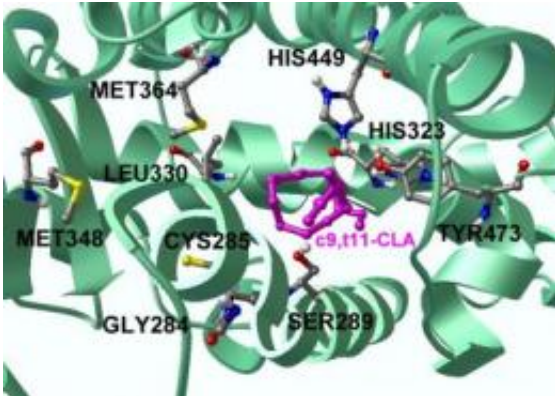


Novel therapy for Crohn's disease discovered

March 19 2012



This image represents a CLA molecule. Credit: Virginia Tech

The Nutritional Immunology and Molecular Medicine Laboratory (NIMML) research team at Virginia Tech has discovered important new information on the efficacy of conjugated linoleic acid (CLA) in treating Crohn's disease, a form of inflammatory bowel disease (IBD). CLA is a naturally occurring acid found in meat and dairy products known for its anti-cancer and immune modulatory properties.

In collaboration with the Division of Gastroenterology and Hepatology at University of North Carolina School of Medicine and the Wake Forest Medical Center, researchers found that Crohn's patients who took supplementary CLA showed noticeable improvement. "In our recent open label study of CLA as a supplement in study subjects with mild to moderate CD there was a marked improvement in disease activity and quality of life in 50% of the subjects. CLA was well tolerated by all of

the study subjects. These findings are very encouraging and will need to be verified in a [randomized controlled trial](#)," said Professor Kim L. Isaacs, a Professor of Gastroenterology at the University of North Carolina at Chapel Hill.

The two main manifestations of IBD—Crohn's and ulcerative colitis—afflict over 1.4 million people in the United States. Symptoms include abdominal cramping, fever, fatigue, loss of appetite, skin and mouth ulcers, and diarrhea or constipation. In addition, the risk of developing colorectal cancer increases by about one percent yearly in IBD patients. Currently, there is no cure for [Crohn's disease](#) and the exact causes of it aren't fully understood.

CLA affords those afflicted with mild to moderate IBD an effective treatment without the unwanted side effects of many synthetic drugs. "Furthermore, we have demonstrated that probiotic bacteria can produce CLA locally and suppress colitis. Therefore, CLA can be administered directly in capsules or indirectly through CLA-producing probiotic bacteria," said Dr. Raquel Hontecillas, an Assistant Professor of Immunology at NIMML.

NIMML strives to develop safer and more effective therapies for human chronic inflammatory diseases from Nature's own medicine cabinet. To achieve this, NIMML uses advanced computational modeling in addition to mechanistic and clinical experimentation. "The validation of the anti-inflammatory actions of CLA in the gut is in line with our goal because CLA is a natural fatty acid found in milk and ruminant products. The fully integrated bioinformatics, nutrition and immunology experimentation capabilities of NIMML enable the acceleration of translational biomedical research from computational and mathematical modeling into the clinic. CLA is an example of an anti-inflammatory compound in a pipeline of naturally occurring and synthetic compounds (e.g., abscisic acid, eleostearic acid, terephthalanilides) with tremendous

therapeutic and prophylactic potential as anti-inflammatories," said Dr. Josep Bassaganya-Riera, a Professor of Immunology, principal investigator of this human clinical trial, and the Director of the NIMML and the Center for Modeling Immunity to Enteric Pathogens.

These findings, reported in the most recent edition of *Clinical Nutrition*, were awarded the American College of [Gastroenterology](#) Presidential Poster of distinction for human clinical trials.

More information: Bassaganya-Riera, J., R. Hontecillas, W.T. Horne, M. Sandridge, H. Herfarth, R. Bloomfeld, and K. Isaacs (2012) Conjugated linoleic modulates immune responses in patients with Mild to Moderately active Crohn's disease. *Clinical Nutrition*. In Press.

Provided by Virginia Tech

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