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Conjugated Linoleic Acid Produced by Anaerobic Gut Fungi Inhibits the Salmonellosis

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During the last three decades, the epidemiology of food borne pathogens has changed rapidly along with the alterations in the social atmosphere and the ability of pathogens to adapt to new niches. *Salmonella* is the most commonly suggested cause of food borne disease which constitutes a major public health problem in many countries. In this study, anaerobic gut fungi (AGF) were isolated from the fecal samples of ruminant herbivores and putatively identified them as *Orpinomyces* sp. and *Neocallimastix* species. AGF isolates grown in anaerobic medium containing linoleic acid as sole energy source, to understand whether AGF play a role in the formation of conjugated linoleic acid (CLA) from linoleic acid (LA), and our preliminary findings showed that isolated AGF have ability to convert LA to CLA effectively. The produced CLA was investigated for its possible antibacterial effects against *Salmonella*. The results showed that CLA formed by one of AGF isolates (*Orpinomyces* sp. GMLF157) has a remarkable antibacterial effect on all four strains of *Salmonella* sp. (*Salmonella enterica*, *Salmonella typhi* ATCC 14081, *Salmonella* sp.¹ and *Salmonella* sp.²) used for current study.

Keywords: Antibacterial, Conjugated linoleic acid, Linoleic Acid, Salmonellosis.