PROCESS FOR OBTAINING A MOLECULE THAT SERVES AS AN INHIBITOR OF ANTIMICROBIAL PEPTIDES	
Offering Organization:	Centro de Investigación y Asistencia en Tecnología y Diseño del Estado de Jalisco, A.C.
Type of Organization:	Public Research Center
Development Stage:	Laboratory
Desired Relationship:	– Technological research and development financing (technological partner) – Specialized application tests – Creation of a new company (Joint Venture) for the commercialization of the products outlined herein – Licensing of patents
Sector:	Biomedical biotechnology
Area of knowledge:	Medicine
Key words:	Inhibitor of antimicrobial peptides, antimicrobial peptide *CAMP*, interleukin *IFNG*, molecule

DETAILED DESCRIPTION:

Problem to be solved:

The present invention aims to solve the problem of the use of monoclonal antibodies or aptamers that may induce an unwanted immune response and represent a higher cost of production and/or biological infectious risk.

Solution:

The object of this invention is to develop a method to obtain a molecule that serves as an inhibitor of antimicrobial peptides, one which introduces indirect immunomodulatory activity when inhibiting the expression of antimicrobial peptides and type II interferons in lines of human cells, for the treatment of cancer and inflammatory, allergic, and autoimmune diseases.

New and Innovative Aspects:

The main contribution of the present invention is the process of covalent bonding between lithocholic acid and ethanol to obtain a molecule that serves as an inhibitor of antimicrobial peptides. This radically changes the properties of lithocholic acid, which is an elicitor of antimicrobial peptides, and transforms it into a potent inhibitor of antimicrobial peptide genes *CAMP* and interleukin *IFNG*.

TECHNICAL CHARACTERISTICS:

The present invention relates to a method of enzymatic synthesis and efficient purification of ethyl lithocholate. Ethyl lithocholate is a molecule that serves as an inhibitor of antimicrobial peptides, which introduces indirect immunomodulatory activity to inhibit the expression of antimicrobial peptides CAMP and IFNG (interferon II o interferon-g). Ethyl lithocholate is derived from the esterification of lithocholic acid with ethanol in carbon position 24. It is a whitish crystal with a molecular weight of 404.63 gr/mol, it has a logP = 5.9, boiling point of 974.55 K, and melting point of 555.43 K. Ethyl lithocholate can be used for the treatment of cancer and allergic, inflammatory, and

autoimmune diseases in human and animal clinics.

Main advantages derived from its utilization:

- Generate a small molecule (404.62 Da) that inhibits the expression of CAMP and IFNG genes whose products (peptide LL-37 and IFN- g protein) are important factors in the etiology of allergic, infectious and autoimmune diseases.

Applications:

- Medicine

INTELLECTUAL PROPERTY

- Patent submitted in 2014
- MX/a/2014/004496

ABOUT THE OFFERING ORGANIZATION

Presentation:	El Centro de Investigación y Asistencia en Tecnología y Diseño del Estado de Jalisco, A.C. (CIATEJ) is a public research center that belongs to the national technology development and innovation network, the National Council for Science and Technology (CONACyT). CIATEJ is focused on the agricultural, food, health, and environmental sectors with an emphasis on the application of innovative biotechnology.
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