Project Nº 28
Title: *Virulence factors in E. coli resistant bacteria*
Department/ Laboratory *Laboratory where the project will be carried out indicating Department, Area, Faculty, CUN, CIMA etc.*
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Summary

Infections caused by antibiotic-resistant organisms are one of the greatest problems for public health worldwide. About 700,000 people die each year from antibiotic resistance and it is estimated that in 2050, this number will reach 10 million. WHO has developed a strategic plan against resistance to antibiotics through a global approach, in line with the One Health initiative. Therefore, multidisciplinary and collaborative studies are needed to provide information on the risks that originate in the man-animal-environment interface.

In recent years, strains of enterobacteriaceae resistant to β-lactam antibiotics and in particular the extended-spectrum β-lactamase (ESBL) producers have increased. Our research group has carried out several studies observing the dispersion of E-BLEEs in various food groups, in aquatic environments, in the primary sector of animal production (soil of farms and feeds), and in human carriers. The data obtained showed prevalences ranging from 17% (healthy carriers) to 70% (fresh meat and farm soil). These data reflect the widespread mobility of these microorganisms and human exposure to sources of infection.

Given this reality, the general objective of this work is understand the mechanisms of virulence through the determination of virulence factors genes by PCR in E. coli strains. The availability of different origins strains (clinical, food and environmental) will help us to recognize whether there is a predominance of a variable or the efficiency for the resistance and virulence dissemination.

yes	
no	X

Does the project include the possibility of supervised animal manipulation to complete the training for animal manipulator?