



**POTENTIAL OF CHEESES MICROORGANISMS ECOSYSTEMS FOR THE PRODUCTION OF BIOACTIVE PEPTIDES, AND EFFECT OF THE DAIRY MATRICES IN THE SURVIVAL OF DAIRY MICROORGANISM THROUGH DIGESTION.**

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Recently, scientists have added functional value to proteins, due to its ability to generate bioactive peptides released enzymatically by passing through the gastrointestinal tract or during food fermentation or ripening. The importance of these peptides is given for exhibit specific bioactivities on the course of diseases as antioxidants, hypertensive, immunomodulating, anticariogenic, etc. However, the study of the effect on health of these peptides is complex, as it depends also of their ability to reach the target cells. The structure and composition (initial or following ingestion) of the food matrix affects this process, and needs to be validated as an appropriate vehicle for bioactive peptides and as a protection for the gastric stress suffered during digestion.

Therefore, in the present work our objective was to evaluate the biological activity of the peptides present in fresh goat cheeses and cow ripened cheese "Cotija" through the correlation between the proteolytic fractions rates and the observed biological activities. Proteolytic indexes were evaluated for acid soluble nitrogen, non-protein nitrogen, non-casein nitrogen and ethanol soluble nitrogen fractions, using the Kjeldahl method, and reverse phase HPLC. The small molecular weight peptides resulting from proteolysis present in the ethanol soluble and non-protein soluble nitrogen fractions were tested *in vitro* for antioxidant activity (DPPH), and for their inhibitory activity of ACE.

The protective effect of dairy matrix in the survival of microorganisms was analyzed based on the impact of their structure and composition on the viability of the cheese microorganisms. The changes in the matrix through digestion were also measured by protein degradation and microstructure changes. This is a first approach to determinate the bioavailability of bioactive peptides in cheeses through digestion.