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Use of bioassays to assess functional properties of fermented milks

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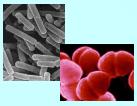
AIM

The research aimed at evaluating the ACE-inhibitory and **immunomodulatory activity of fermented milks**

Introduction

- Fermented milk products are a source of biofunctional peptides that may have beneficial health effects
- These bioactivities include immunomodulatory and ACE-inhibitory activities



Materials and Methods

- Milk fermented with *Enterococcus faecalis* (FAIR E-63) and *Lactobacillus delb. bulgaricus* (LA 2)
- Peptidic fractions obtained with 5 kDa cut-off filters
- **ACE-inhibitory activity:** enzymatic assay
- **Immunomodulatory activity:**
  - bovine lymphocytes from non pregnant dry cows
  - peptidic fractions freeze-dried and resuspended in medium with different concentrations and incubated with ConA
  - MTT test after 48 hours

CONCLUSIONS:

- **The fermentation of milk with FAIR E-63 and LA 2 produced ACE- inhibitory peptides**
- **Probably FAIR E-63 and LA 2 produced peptides that modulated the replication of bovine lymphocytes**

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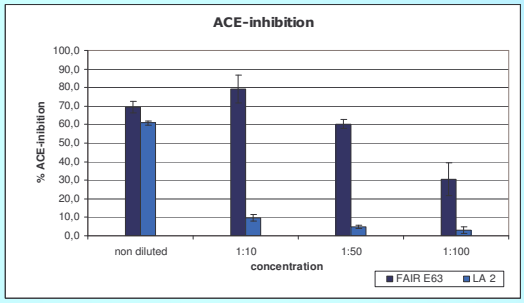
Results

- FAIR E-63 showed a greater ACE-inhibitory potency (72%) than LA2 (59%) also using dilutions (graphic 1)
- Fermented milk products modulated the proliferation of bovine lymphocytes (graphic 2)
- Lymphocytes incubated with only peptidic fractions had not proliferating activity
- At low concentrations, FAIR E-63 showed more potent inhibitory activity than LA2 (P<0,05)

Graphic 1: ACE-inhibition of milk fermented with FAIR E-63 and LA 2



Graphic 2: Immunomodulatory activity of the peptidic fractions produced by FAIR E-63 and LA 2