

## Antimutagenic properties of goat's probiotic-Mechanisms of action involved

**Mario Eduardo Arena**

National University of Tucuman and INQUINOA-CONICET, Argentina

The antimutagenic effect of ruminant probiotics has not been study previously. The specific host probiotics for goats isolated from healthy animals was orally administrated to goats. This administration was correlated with a ten time diminution of fecal putrescine (cancer and bacterial disease marker) and a decrease of 60% mutagen fecal concentration, indicating the protective effect of the treatment. According with these results the action mechanisms involved were determined *in vivo* and *in vitro*. The probiotic administration produced several beneficial properties that together could be responsible of the antimutagenic properties observed. Increased the production of conjugated linoleic acid (CLA) by gut goat's. CLA is recognized by its anticancer properties. Moreover, histological studies showed a protective effect of probiotic administration with respect to the control group. On the other hand, the goat's probiotic decreased the Enterobacteria development. In order to study if the antimutagenic effect could be due to the absorption of mutagen by probiotic strains, we study the probiotic binding. Sodium azide and benzopirene (with and without activation with liver enzymes) was used as mutagens. The effect was strain specific, some probiotic absorption was higher than 70%, and in any cases, the mutagen was degraded or metabolized. Our results reinforce the strategy of probiotics application to prevent enteric diseases, diminish the mutagens concentration on gut and provide safe food for consumers of caprine products.

### Biography

Mario Eduardo Arena obtained his Ph.D at the age of 30 years from Universidad Nacional de Tucuman (UNT). He accomplished postdoctoral studies from CERELA. He was Professor invited to Universitat of Valencia (2003). He has published more than 25 papers in reputed journals, 1 book and 4 chapters of book, and serving as reviewer an editorial board member. Currently, he is research of CONICET (INQUINOA) and Professor of UNT, working in the influence of natural products on bacterial pathogenic properties, beneficial properties of probiotic on gut healthy (inhibition of mutagens concentration, cancer markers) and ensilages as probiotic vehicle.

[arename@fbqf.unt.edu.ar](mailto:arename@fbqf.unt.edu.ar)