**LACTOBACILUS BREVIS 16GAL PROBIOTIC POTENTIAL PROVED THROUGH IN VIVO STUDIES**

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**SUMMARY**

It was elaborated an in vivo experimental design to study the protective role of the *Lb. brevis* 16GAL pure culture against infection with *Salmonella enterica* serovar. *enteridis*.

In order to obtain comparative results the animals were grouped in different batches of 5 holoxenic rats each: batch 1-negative control, batch 2-infection control with administration, by oral route, a single dose of 2ml/animal of *Salmonella enterica* serovar *enteritisid*, suspension containing ~10⁸ CFU/ml, batch 3-probiotic control with administration a daily dose of 2ml/animal of probiotic strain *Lb. brevis* 16GAL, in liquid form, represented by mid-logarithmic phase culture. The animals from batch 4 have received simultaneously the infection dose of *Salmonella enterica* serovar *enteritisid* as well as the probiotic (gived and 3 days in succession, after infection). During that experiment was determined: a daily microbiological analysis in faeces; a final microbiological analysis, in different regions of the intestine (duodenum, jejun, colon), drawn after the animals were euthanized, 4 days after infection.

Results of the in vivo test with pure cultures *Lb. brevis* 16 GAL showed:

- The supply of lactobacilli culture determines the *Salmonella* removal in faeces, in a significant ratio, reducing simultaneously the removal of normal microbiota. Normal microbiota adheres and colonizes more intensively the intestinal tract, on its entire length and shutting off the pathogen’s adherence sites.

- Lactic acid bacteria are able to produce antipathogenic adesyne called biosurfactants with inhibiting effect over a wide range of pathogenic agents including the *Salmonella* sp.(1) Perhaps these proteic biosurfactants are produced in situ, process favoured by a low pH created by producing acids: lactic, acetic, ethylene dicarboxylic, phenyl-lactic.

- The anti-*Salmonella* bacteriostatic or even antibacterial effect showed by probiotic strain is cancelled by the pH neutralization proving this is the major mechanism of the antimicrobial activity and not that of producing bacteriocine.
BIBLIOGRAPHY