



Butirex C4 inhibit the growth of Clostridium perfringens

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Summary

The present study was done in collaboration with prof P. Galfi, Szent István University from Hungary. This study analyses the action of BUTIREX C4 against pathogenic bacteria strains of *Clostridium perfringens*.



Method

In vitro experimental method has consisted in the combination of multiple treatments. This study used the following variables:

- Butyric acid level: (100 mM; 33,3 mM; 11,1 mM; 3,7 mM; 1,23 mM; 0,41 mM; 0 mM)
- Level of pH (5.5; 6.0; 6.5; 7.0)
- Pathogenic microorganism:

Test microorganisms	Strain	Source	Origin
<i>Clostridium perfringens</i>	107004	HNCMB	Mammal
<i>Clostridium perfringens</i>	105019	DMID	Chicken
<i>Clostridium perfringens</i>	5/2	DMID	Chicken

The pathogenic strains applied were obtained from the following research institutes and culture collections: Department of Microbiology and Infectious Diseases, Faculty of Veterinary Science, Szent István University, Budapest, Hungary (DMID), HNCMB –

Hungarian National Collection of Medical Bacteria, National Center for Epidemiology, Budapest, Hungary.

Results

- With a lower level of pH, butyric acid is more effective against the pathogenic bacteria (Clostridium).
- Between pH levels of 6.0 and 5.5, in the first hours of treatment, the effectiveness of butyric acid in reducing the growth of pathogenic bacteria (Clostridium) increases as the dosage of butyric acid is increased.
- This in vitro trials confirm the good behaviour observed in two years of experience in the field of broilers and control necrotic enteritis.

Treatments with Sodium butyrate (Butirex C4)

Microorganisms	pH 7.0	pH 6.5	pH 6.0	pH 5.5
<i>C. perfringens</i> 107004	No inhibition	No inhibition	Moderate inhibition	Moderate inhibition
<i>C. perfringens</i> 105019	Moderate inhibition	Moderate inhibition	Significant inhibition	Significant inhibition
<i>C. perfringens</i> 5/2	No inhibition	Significant inhibition	Moderate inhibition	Moderate inhibition

Conclusion

At different 6.5 pH value or lower, butyric acid is able to inhibit the growing of Clostridium perfringens obtained from poultry

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