К.Б. Бияшев, Ж.С. Киркимбаева, А.Ж. Макбуз, Б.К.Бияшев, С.Е.Ермагамбетова,
А.А. Жакупова, Д.А. Сарыбаева, А.Е. Жолдасбекова

ОЦЕНКА БЕЗВРЕДНОСТИ АТТЕНУИРОВАННОГО ШТАММА E.COLI 64 Г НА ЛАБОРАТОРНЫХ МОДЕЛИ

Дана оценка безвредности аттенуированного штамма E.coli 64Г на лабораторной модели. Установлено, что внутрибрюшинное и пероральное введение суточных живых (бульонные и агаровые культуры) и убитых культур исследуемого штамма E.coli 64Г в экспериментальных дозах не вызывал гибели белых мышей.

K.B. Biyashev, Zh.S. Kirkimbaeva, A.Zh. Makbuz, B.K. Biyashev,
S.E. Ermagambetova, A.A. Zhakupova, D.A. Sarybaeva, A.E. Zholdasbekova

ESTIMATION OF SAFETY OF ATTENUIROVANNOGO ШТАММА E.COLI 64G ON LABORATORY MODELS

The harmlessness estimation attenuition strain E.coli 64G on laboratory model is given. It is established that inside a belly cavity introduction of daily allowances live (the broth and the agar culture) and the killed cultures investigated strain E.coli 64G in experimental doses did not cause destruction of white mice

UDC 579:576.6

**K.B. Biyashev, J.S. Kirkimbaeva, A.Z. Makbuz, B.K. Biyashev,
S.E. Ermagambetova, A.A. Zhakupova, D.A. Sarybaeva**

Kazakh National Agrarian University

THE ANTAGONISTIC ACTIVITY
OF ATTENUATED STRAIN E.COLI 64Г TO TEST CULTURES

The antagonistic activity of an attenuated strain of E.coli 64Г to the test cultures - E.coli, S.dublin, S.abortusovis, S.typhymurium, K.pneumoniae, Strep. pneumoniae, vulgaris, Staph.aureus, Staph.albus, Bac.subtilis is studied. Established that E.coli 64Г inhibits growth of all the studied test cultures, and the inhibition of growth of the majority of them.

Key words: Antagonistic activity, antigen, pathogenic strain E.coli, test cultures, probiotic preparations.

Ключевые слова: антагонистическая активность, антиген, патогенность, штамм E.coli, тест культуры, пробиотические препараты.

*Кілт сөздер:*антагонистік белсенділік, антиген, зардаптылық, E.coli штамы, тест өсінділер, пробиотикалық препараттар.

Introduction An important and unsolved problem is the problem of providing high of juvenile mortality in the early postnatal period. In recent decades, the loss of calves originates mainly from the diseases of gastrointestinal tract.

Analysis of the literature and the experience of developed countries to carry out veterinary measures, provide a basis for the revision of methods of treatment and prevention in the gastro - intestinal diseases of young animals and at the same destination is given to the creation of environmentally friendly products, primarily for the restoration of normal intestinal flora of animals.

The neonatal period and colostric supply (birth to 10 - day-old) has a special place in terms of prevention of gastrointestinal disease, which is associated with a number of physiological characteristics of newborns. Calves are born with a physiologically low immune defense and not able to withstand the adverse effects of pathogenic a microorganism, which in their body is quickly gaining virulence and causes high mortality [1].

In this state they remain until yet have sufficient maternal colostrum. Colostrum contains in its composition is 10-20 times more gamma-globulins than in plasma, it contains a large number of macrophages, T and B - lymphocytes and other biologically active substances. The largest number of immunoglobulins and cellular elements contained in the colostrum of the first milking. The above factors contributing to the emergence and spread of gastrointestinal illnesses, make the animals of the early postnatal period as vulnerable to the etiological agents. Among them, it is first necessary to note pathogenic serovars of Escherichia, Salmonella, Klebsiella, Proteus, streptococci (diplococci), Yersinia, Staphylococcus, rotavirus, corona, enterovirus, parvovirus. Because of this complexity, the etiological structure of the gastro-intestinal disease is difficult and the organization of regular and effective system of treatment - preventive measures that should be based on an accurate diagnosis and built with the specific animal health situation [2].

In this regard, the development of evidence-based effective prevention of diarrheal diseases, including the causes of disease, the immune system and the intestinal microflora is an urgent problem of veterinary science and practice.

From this perspective, probiotics should be considered as part of the management capacity of the animals, their health and get high quality products, safe in bacterial and chemically. The mechanism of action of probiotics unlike antibiotics is not aimed at destroying, and competitive exclusion conditionally pathogenic bacteria of the intestinal biocenosis to prevent amplification and transmission of virulence factors in a population of conditionally pathogenic bacteria.

When selecting plants for the preparation of probiotics should remember that they should have a set of properties that allow them to compete with pathogenic and conditionally pathogenic microorganisms and to meet certain requirements: is a normal inhabitant of the gastrointestinal tract of healthy animals to be non-pathogenic and non-toxic, have a certain level of resistance to hydrochloric acid and bile, capable to adhere to the epithelium and engraftment in the digestive tract, antagonistic activity and to be stable and able to remain viable for a long time during storage under production conditions [3].

The purpose of research - to determine the antagonistic activity of an attenuated strain of E.coli 64G to the test cultures.

Materials and methods The object of the study was a strain of E.coli 64Г obtained as a result of selective breeding in order to use it in perspective for the manufacture of probiotic preparation.

Antagonistic activity of Escherichia studied strains selected on solid nutrient media. The extent of the antagonistic activity of the studied strains to each test microbe was judged by the width of the zone of growth inhibition of the latter: up to 10 mm - the average , more than 20 mm - high , the lack of growth inhibition zone - the zero -sum activity.

As the test cultures were taken cultures E.coli, S.dublin, S.abortusovis, S.typhymurium, K.pneumoniae, Strep. pneumoniae, vulgaris, Staph.aureus, Staph.albus, Bac.subtilis.

Results and discussion Determination of the spectrum of antagonistic activity of an attenuated strain of E.coli 64Г carried out in comparison with the strain used as a probiotic B.longum in the 379M. E.coli 64Г culture was grown on a liquid medium in a thermostat 16-18 hours at 37-38 °C. In the culture of B.longum 379M grown on corn-lactose medium. Antagonist activity was determined microbiologically - agar diffusion method (method of holes). In Petri dishes, test - seeded crops did well. In wells were E.coli strains B.longum 64Г and 379M in rate of 1,0 cm^3. Plates were incubated at 37 °C for 18-24 hours. Measured zone diameter growth inhibition of test - cultures.

Table 1 - The results of the antagonistic activity of strains E.coli 64Г and B.longum B 379M

test cultures	Delay test crop area in mm	
	E.coli 64G	B.longum B 379M
E.coli	20,6	15,2
Sal.dublin	22,9	10,4
Sal.abortus ovis	29,4	16,3
Sal. choleraesuis	27,5	14,5
Sal. typhimurium	24,8	13,7
Proteus vulgaris	18,6	10,6
Staph, aureus	22,6	13,7
Staph, albus	23,9	14,4
Streptococcus pneumoniae	24,6	16,5
Klebsiella pneumonia	18,7	12,5
Bacillus subtilis	17,8	13,6

The results showed that both strains have the antagonistic activity to the test cultures. A considerable variation in the level of activity of antagonistic strains suppressed spectrum of their microflora. However, the material can be seen that the E.coli 64Г inhibits the growth of all the studied test cultures, and an inhibition of growth of most test cultures than the strain B.Longum 379M. This indicates a higher antimicrobial activity of the proposed E.coli 64Г.

Thus, strains selected E.coli 64Г has a pronounced antagonistic properties in the future we will explore the possibility of using it for the production of probiotic.

References:

1 Nozdrin A.G. , Nozdrin G.A. Prospects for the development and application of probiotics in veterinary medicine / / "The new pharmacological agents in veterinary medicine."-Saint Ptb., 1998. - P. 52-53.

2 Samoukina A.M. etc. The ability to use enterococcus, which are part of the normal intestinal flora, as new probiotics. V Congress of Scientific Russian Society of Gastroenterology. 3-6 February 2005. Moscow. M. - 2005. - p.487-489.

3 Smirnov V.V., Kovalenko N.K., V.S. Podgorsky, Sorokulov I.B. Probiotics are live cultures on the basis of microorganisms. -2002, Number 4.-p. 64-75.

К.Б. Бияшев, Ж.С. Киркимбаева, А.Ж. Мақбуз, Б.К.Бияшев, С.Е.Ермағамбетова, А.А. Жақыпова, Д.А. Сарыбаева

АТТЕНУИРЛЕНГЕН E.COLI 64Г ШТАМЫНЫҢ ТЕСТ-КУЛЬТУРАЛАРҒА АНТАГОНИСТІК БЕЛСЕНДІЛІГІ

Зерттеу нәтижесінде көрсетілгендей, сұрыпталып алынған E.coli 64Г штамы жоғары антагонистік белсенділікке ие және алдағы уақытта зерттелініп, пробиотик дайындау үшін қолданылуы мүмкін.

К.Б. Бияшев, Ж.С. Киркимбаева, А.Ж. Макбуз, Б.К.Бияшев, С.Е.Ермагамбетова, А.А. Жакупова, Д.А. Сарыбаева

АНТАГОНИСТИЧЕСКАЯ АКТИВНОСТЬ АТТЕНУИРОВАННОГО ШТАММА E.COLI 64 Г К ТЕСТ-КУЛЬТУРАМ

Результаты исследований показали, селекционированный штамм E. coli 64Г обладает выраженными антагонистическими свойствами и в дальнейшем нами будет изучаться возможность использования его для изготовления пробиотика.

УДК 619: 616.995.1:636.8

Домацкий В.Н., Фадеева О.В., Аубакиров М.Ж., Чернышова Е.Н.

Государственное научное учреждение «Всероссийский научно-исследовательский институт ветеринарной энтомологии и арахнологии» Государственной сельскохозяйственной академии
Костанайский государственный университет им. А.Байтурсынова

ТОКСОКАРОЗ СОБАК И КОШЕК В УРБАНИЗИРОВАННОМ ОЧАГЕ ЗАПАДНОЙ СИБИРИ

Приведены данные об изучении сезонной динамики токсокароза собак и кошек в г. Тюмени, степени инвазирования животных в зависимости от возраста, пола, типа кормления и условий содержания. Показана степень обсемененности проб почвы и овощей яйцами токсокар. Представлены результаты испытания эффективности антгельминтиков при токсакарозе собак и кошек.

Ключевые слова: токсакароз, собаки, кошки, сезонная динамика, антигельминтики.

Введение

Токсокароз собак и кошек широко распространенное заболевание на территории России, особенно в больших городах (заболеваемость варьирует в пределах 10-76%) и представляет реальную угрозу для здоровья человека (1 -10).