

Alojz Bomba

Head of Institute of Experimental Medicine, Faculty of Medicine, Pavol Jozef Safarik University
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Summary

Head of Institute of Experimental Medicine, Faculty of Medicine of Pavol Jozef Šafárik University in Košice, Slovakia. Research is focused on prevention of chronic diseases by modulation of gastrointestinal ecosystem using probiotic micro-organisms and natural bioactive substances. President of the International Scientific Conference on Probiotics and Prebiotics. Initiator of the potentiated probiotics concept. Gnotobiotic expert. Author of 54 peer-reviewed scientific papers registered in CC; contributor of 4 textbook chapters.

Experience

Head of Institute at Institute of Experimental Medicine, Faculty of Medicine, Pavol Jozef Safarik University in Kosice

August 2006 - Present (8 years 6 months)

Honors and Awards

The honorary title "Honored Professeur" granted by I. I. Mechnikov Institute of Microbiology and Immunology of Ukrainian Academy of Medical Sciences

September 2012

Projects

Project VEGA 1/0279/13 The role of intestinal microflora in pathogenesis of atherosclerosis and colorectal cancer and possibilities of its modulation in both diseases prevention

Members:Alojz Bomba

Project NFP26220120109 Center of Excellence for research of factors influencing the health in marginalised and imunocompromised people (Agency of the Ministry of Education, Science, Research and Sport of the Slovak Rep. for Structural Funds of the EU)

Members:Alojz Bomba

Project NFP26220220244 probiotic microorganisms and bioactive compopnents of natural origin for healthier population of Slovakia (Agency of the Ministry of Education, Science, Research and Sport of the Slovak Rep. for Structural Funds of the EU)

Members:Alojz Bomba

Project NFP26220220152 Competence Center for biomodulators and nutritional supplements Agency of the Ministry of Education, Science, Research and Sport of the Slovak Rep. for Structural Funds of the EU)

Members:Alojz Bomba

Organizations

Member of Slovak Academy of Agricultural Sciences

President of the organizing and the scientific committee of the „International Scientific Conference on Probiotics and Prebiotics - IPC"

Member of the editorial board of the journal Beneficial Microbes

Member of the stable committee for the habilitation of doctors' dissertation theses for the functional period 2010-2015 in these disciplines : hygiene of breeding and environment – 040301, hygiene of foodstuff – 040302, infectious and parasitic animal dis

Member of the committee for post-graduate studies in the study programme Clinical biochemistry, study discipline 7.1.25 Clinical biochemistry

President of the organizing committee of the international scientific conference" Food and Function"

President of the organizing committee of the international scientific conference „Gastrointestinal Microbial Ecology"

President of Cassovia Life Sciences

Publications

Effects of the administration of lactobacilli, maltodextrins and fructooligosaccharides upon the adhesion of E. coli O8:K88 to the intestinal mucosa and organic acid levels in the gut contents of piglets.

Vet. Res. Commun. 31, 791 (2007) 2007

Authors: Alojz Bomba, R Nemcová; A Bomba; S Gancarcíková; K Reiffová; P Guba; J Koscová; Z Jonecová; L Sciranková; A Bugarský

Effect on the immune system of germ-free piglets of probiotics potentiated with polyunsaturated fatty acids.

Berl. Munch. Tierarztl. Wochenschr. 120, 221 (2007) 2007

Authors: Alojz Bomba, Rudolf Kastel; Alojz Bomba; Robert Herich; Ladislav Vasko; Martina Svedova

Testing two Lactobacillus plantarum and Lactobacillus acidophilus strains for their suitability as a lipid probiotic.

Berl. Munch. Tierarztl. Wochenschr. 117, 145 (2004) 2004

Authors: Alojz Bomba, Slávka Marsalková; Milan Cízek; Milan Vasil'; Alojz Bomba; Pavel Nad'; Ivan Datelinka; Zuzana Jonecová; Svetla

Differences in the development of the small intestine between gnotobiotic and conventionally bred piglets.

Berl. Munch. Tierarztl. Wochenschr. 117, 46 (2004) 2004

Authors: Alojz Bomba, Robert Herich; Mikuláš Levkut; Alojz Bomba; Sona Gancarcíková; Radomíra Nemcová

The influence of omega-3 polyunsaturated fatty acids (omega-3 pufa) on lactobacilli adhesion to the intestinal mucosa and on immunity in gnotobiotic piglets.

Berl. Munch. Tierarztl. Wochenschr. 116, 312 (2003) 2003

Authors: Alojz Bomba, Alojz Bomba; Radomíra Nemcová; Sona Gancarcíková; Robert Herich; Juraj Pistl; Viera Révajová; Zuzana Jonecová;

Improvement of the probiotic effect of micro-organisms by their combination with maltodextrins, fructooligosaccharides and polyunsaturated fatty acids.

Br. J. Nutr. 88 Suppl 1, 0 (2002) 2002

Authors: Alojz Bomba, A Bomba; R Nemcová; S Gancarcíková; R Herich; P Guba; D Mudronová

Influencing the immune parameters in germ-free piglets by administration of seal oil with increased content of omega-3 PUFA.

Arch Tierernahr 54, 315 (2001) 2001

Authors: Alojz Bomba, V Revajová; J Pistl; R Kastel; L Bindas; D Magic; M Levkut; A Bomba; J Sajbidor

Study of the effect of Lactobacillus paracasei and fructooligosaccharides on the faecal microflora in weanling piglets.

Berl. Munch. Tierarztl. Wochenschr. 112, 225 (1999) 1999

Authors: Alojz Bomba, R Nemcová; A Bomba; S Gancarciková; R Herich; P Guba

Potential of the effectiveness of Lactobacillus casei in the prevention of E. coli induced diarrhea in conventional and gnotobiotic pigs.

Adv. Exp. Med. Biol. 473, 185 (1999) 1999

Authors: Alojz Bomba, A Bomba; R Nemcová; S Gancarciková; R Herich; R Kastel

The effect of lactic acid bacteria on intestinal metabolism and metabolic profile in gnotobiotic pigs.

DTW. Dtsch. Tierarztl. Wochenschr. 105, 384 (1998) 1998

Authors: Alojz Bomba, A Bomba; S Gancarciková; R Nemcová; R Herich; R Kastel; A Depta; M Demeterová; V Ledeck; R Zitnan

Colonization capability of orally administered Lactobacillus strains in the gut of gnotobiotic piglets.

DTW. Dtsch. Tierarztl. Wochenschr. 105, 199 (1998) 1998

Authors: Alojz Bomba, R Nemcová; A Bomba; R Herich; S Gancarciková

The effect of lactobacilli inoculation on organic acid levels in the mucosal film and the small intestine contents in gnotobiotic pigs.

Berl. Munch. Tierarztl. Wochenschr. 109, 428 (1996) 1996

Authors: Alojz Bomba, A Bomba; R Kastel; S Gancarciková; R Nemcová; R Herich; M Cizek

Interactions of Lactobacillus spp. and enteropathogenic Escherichia coli under in vitro and in vivo conditions.

Vet Med (Praha) 41, 155 (1996) 1996

Authors: Alojz Bomba, A Bomba; R Nemcová; R Kastel; R Herich; J Pataky; M Cízek

Mineral metabolism in young beef cattle during the period of changing from winter feed rations to grazing

Vet Med (Praha) 40, 65 (1995) 1995

Authors: Alojz Bomba, R Zitnan; A Sommer; M Gallo; J Gallo; A Bomba; J Venglovský; J Buleca; L Bindas

Rumen fermentation and metabolic profile in conventional and gnotobiotic lambs.

Arch Tierernahr 48, 231 (1995) 1995

Authors: Alojz Bomba, A Bomba; R Zitnan; I Koniarová; A Lauková; A Sommer; J Posivák; V Bucko; J Pataky

Colonization of the digestive tract by defined lactoflora in gnotobiotic and conventional lambs

Vet Med (Praha) 39, 701 (1994) 1994

Authors: Alojz Bomba, A Bomba; I Kravjanský; R Kastel; M Cízek; B Kapitancik; Z Juhásová; R Herich; R Zitnan; V Bucko

Volatile fatty acid concentrations, enzyme activities and microflora in the rumen contents of heifers during transition to pasture.

Arch Tierernähr 46, 51 (1994) 1994

Authors: Alojz Bomba, R Zitnan; A Sommer; J Gallo; A Lauková; A Bomba; J Venglovský

Use of selected parameters in the serum and blood of calves in the evaluation of nitrogen and energy metabolism

Vet Med (Praha) 38, 151 (1993) 1993

Authors: Alojz Bomba, A Bomba; S Paulík; L Králíček; R Zitnan; M Poláček

Mineral metabolism in calves during periods of milk feeding and weaning based on selected parameters in the blood

Vet Med (Praha) 38, 141 (1993) 1993

Authors: Alojz Bomba, A Bomba; L Králíček; R Zitnan; E Králíčková; M Poláček

The recovery and rearing of gnotobiotic lambs and their use in veterinary medicine

Vet Med (Praha) 38, 403 (1993) 1993

Authors: Alojz Bomba, A Bomba; L Králíček; I Koniarová; F Lesník; J Posivák; V Bucko; R Zitnan

Biochemical indicators of nitrogen and energy metabolism in the plasma and blood of beef bulls during the grazing season

Vet Med (Praha) 38, 521 (1993) 1993

Authors: Alojz Bomba, R Zitnan; J Gallo; M Gallo; A Bomba; A Sommer

Development of rumen metabolism and ruminal epithelium in lambs.

Arch Tierernähr 44, 227 (1993) 1993

Authors: Alojz Bomba, R Zitnan; A Bomba; A Sommer; L Kolodzieyski

The effect of diet composition on the development of rumen digestion in lambs.

Arch Tierernähr 45, 161 (1993) 1993

Authors: Alojz Bomba, R Zitnan; A Bomba; A Lauková; A Sommer; L Kolodzieyski; J Venglovský; L Bindas

Development of rumen fermentation in calves during milk feeding

Vet Med (Praha) 37, 75 (1992) 1992

Authors: Alojz Bomba, A Bomba; R Zitnan

Production of volatile fatty acids in the rumen of calves during dietary-microbial stimulation and early weaning

Vet Med (Praha) 32, 705 (1987) 1987

Authors: Alojz Bomba, A Bomba; V Kmet; I Koniarová; S Ivan; Z Ceresnáková

Use of the colonizing preparation Amylastin in the stimulation of rumen-type digestion in young ruminants

Vet Med (Praha) 32, 705 (1987) 1987

Authors: Alojz Bomba, V Kmet; G I Kalacnjuk; S Koník; J Lenárt; A Bomba

Correction of current values of the metabolic profile in calves with hemoconcentration

DTW. Dtsch. Tierarztl. Wochenschr. 92, 367 (1985) 1985

Authors: Alojz Bomba, L Slanina; A Bomba; S Paulík; G Batta; J Lehocký

Hemoconcentration in calves in relation to actual and corrected values of metabolic profile parameters

Vet Med (Praha) 29, 435 (1984) 1984

Authors: Alojz Bomba, L Slanina; A Bomba; J Lehocký; S Paulík; G Batta; M Poláček

Hemoconcentration in calves and its relation to the hematologic, protein, mineral and electrolyte profile

Vet Med (Praha) 29, 425 (1984) 1984

Authors: Alojz Bomba, L Slanina; A Bomba; J Lehocký; S Paulík; M Poláček; G Batta

The immunoprotein profile of calves raised under extremely healthy conditions

Vet Med (Praha) 28, 669 (1983) 1983

Authors: Alojz Bomba, S Paulík; L Slanina; A Bomba; M Poláček

Gamma-glutamyltransferase activity in the blood of calves

Vet Med (Praha) 28, 457 (1983) 1983

Authors: Alojz Bomba, S Paulík; L Slanina; G Batta; A Bomba

Effectiveness of Bioactive Food Components in Experimental Colon Carcinogenesis

Acta vet. Brno, 78, 661- 666. 2009

Authors: Alojz Bomba, Hijová, E., Chmelárová, A., Bomba

The effect of probiotic microorganisms and bioactive compounds on chemically induced carcinogenesis in rats. Neoplasma

Neoplasma, 5, 422-428. 2010

Authors: Alojz Bomba, Bertková, I., Hijová, E., Chmelárová, A., Mojžišová, G., Petrášová, D., Strojný, L., Bomba, A., Žitnan, R.

Effects of a probiotic in combination with prebiotics on intestinal lactobacilli and coliforms and activities of bacterial enzymes in 1,2- dimethylhydrazine exposed rats

Czech Journal of Animal Science 56, 3, 99-106.

Authors: Alojz Bomba, Strojný, L., Bomba, A., Hijová, E., Chmelárová, A., Mojžišová, G., Bertková, I., Koprovišová, J., Pomfy, M., S

The role of probiotics and natural bioactive compounds in modulation of the common molecular pathways in pathogenesis of atherosclerosis and cancer

Biologia, 67, 1, 1-13. 2012

Authors: Alojz Bomba, Bomba, A., Brandeburová, A., Riňanyová, J., Strojný, L., Chmelárová, A., Szabadosová, V., Pramuková, B., Žofná

Prebiotics and bioactive natural substances induce changes of composition and metabolic activities of the colonic microflora in cancerous rats

Acta Biochimica Polonica, 59, 2, 271-274.

Authors: Alojz Bomba, Hijová, E., Bomba, A., Bertková, I., Strojný, L., Szabadosová, V., Šoltéssová, A.

Languages

English

(Full professional proficiency)

Skills & Expertise

Gnotobiology

Gut microbiota

Probiotics

Prebiotics

Prevention of chronic disease

ELISA

Microscopy
qPCR
In Vitro
Research
Food Microbiology
Functional Foods
Protein Chemistry
SDS-PAGE
Biotechnology
PCR
Microbiology
Center of Excellence
Science
Cell Biology
RT-PCR
Molecular Biology
Genomics
Scientific Writing
Bioinformatics
Biochemistry
Immunology
Animal Models
Cell
Molecular Genetics
In Vivo
RNA isolation
Proteomics
Lifesciences
Physiology
Virology
Western Blotting
Genetics
Toxicology
DNA
Molecular Cloning
Cell Culture
Sequencing
DNA sequencing
Protein Expression
Cancer Research
real-time PCR
Flow Cytometry
Microbial Ecology
Immunohistochemistry

Education

University of Veterinary Medicine Kosice

MVD, DSc, PhD, veterinary medicine, 1974 - 1980

Interests

sport, literature, cross country ski, golf, football, icehockey

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