

Babak Pakbin

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Education

* B.Sc. – Food Science and Technology, Azad University of Qazvin Branch, Qazvin, Iran. GPA: 3.29/4 (2006-2010)

* M.Sc – Food Science, University of Tehran, College of agricultural and natural science, Karaj, Iran. GPA: 3.49/4 (2010-2012)

M.Sc Thesis: Physico-chemical and microbiological properties of Jug cheese (a traditional Iranian cheese) produced in Qazvin – Supervised by Dr. Seyyed Hadi Razavi

* PhD – Food Hygeine, University of Tehran, College of veterinary medicine, Tehran, Iran. (2015-2020). (GPA: 3.73/4)

PhD Dissertation Topic: Detection of *E. coli* serotype O157:H7 and *Shigella* spp. in food and clinical samples by high resolution melting analysis (HRMA)

Supervisors: 1. Prof. Dr. Afshin Akhondzadeh Basti, Full professor of Food Safety and Microbiology, University of Tehran. - 2. Prof. Dr. Abdollah Karimi, Full Professor of Pediatric Infectious Diseases, Pediatric Infections Research Center, Mofid Children's Hospital, Tehran, Iran.

*Visiting Researcher - 6 months (Feb-Aug 2019) at Medical Microbiology and Infection prevention Department of University Medical Center Groningen, Groningen, Netherlands; under supervision of Prof. Dr. John W.A. Rossen and Dr. Silvia Garcia Cobos.

Skills

Experimental Skills:

Molecular techniques: PCR, Primer and Probe designing, Real-time and qPCR, Melting curve analysis, Gene expression, High Resolution Melting Analysis (HRMA), DNA quality and quantity measurements, Genotyping and phylogenetic analysis.

NGS and sequencing techniques by Illumina NextSeq and Oxford-Nanopore, Bioinformatics analysis including De novo assembly, trimming, and other whole genome sequencing analysis, molecular and phenotypic experiments in microbiology and pathology especially for *E. coli* and enteribacteriacae. Microbiological risk assessment including classical and modern assays. Cell culture technique and flowcytometry analysis. All classical microbial isolation, biochemical and serological techniques.

Food properties consisting of color and texture analysis and rheolofical properties measurement. Chemical analysis including Specterophotometery, HPLC, GC, TLC and classical chemical tests.

Other skills:

Statistical software (SPSS and MiniTab moderately, Optimization by RSM (Design expert ver. 8, ANN and ANFIS with MATLAB software)

Bioinformatics Software (Mega 7.0, BioEdit, Primer 3.0, Rest2009, SeqSphere, CLC genome workbench, and online bioinformatics web tools (GitHub, AMR and VF databases for NGS analysis by Linux operation system) and Statistical and other analysis by R package, Dimension reduction and chemometrics techniques by PCA.

English language skills: Advanced level in written and spoken english

Publications

1- Pakbin, Babak, Shaghayegh Pishkhan Dibazar, Samaneh Allahyari, Maryam Javadi, Zahra Amani, Alireza Farasat, and Sina Darzi. Anticancer properties of probiotic Saccharomyces boulardii supernatant on human breast cancer cells. Probiotics and antimicrobial proteins. 2021, Accepted.

2- Pakbin, Babak, Shaghayegh Pishkhan Dibazar, Samaneh Allahyari, Maryam Javadi, Alireza Farasat, and Sina Darzi. "Probiotic Saccharomyces cerevisiae var. boulardii supernatant inhibits survivin gene expression and induces apoptosis in human gastric cancer cells." Food Science & Nutrition 9, no. 2 (2021): 692-700. https://doi.org/10.1002/fsn3.2032.

3- Iradj Ashrafi Tamai, Babak Pakbin, Bahar Nayeri Fasaei. Genetic diversity and antifungal susceptibility of Candida albicans isolates from Iranian HIV-infected patients with oral candidiasis. BMC Research Notes. (2021) Accepted. https://doi.org/10.1186/s13104-021-05498-8.

4- Pakbin B, Mahmoudi R, Mousavi S, et al. Genotypic and antimicrobial resistance characterizations of Cronobacter sakazakii isolated from powdered milk infant formula: A comparison between domestic and imported products. Food Sci Nutr. 2020;00:1–10. https://doi.org/10.1002/fsn3.1965.

5- Pakbin, Babak, Afshin Akhondzadeh Basti, Ali Khanjari, Leila Azimi, and Abdollah Karimi. "Differentiation of stx1A gene for detection of Escherichia coli serotype O157: H7 and Shigella dysenteriae type 1 in food samples using high resolution melting curve analysis." Food Science & Nutrition (2020).

6- Nikbakht Mohammad, Babak Pakbin, and Gholamreza Nikbakht Brujeni. "Evaluation of a new lymphocyte proliferation assay based on cyclic voltammetry; an alternative method." **Scientific reports** 9 (**Nature Publishing Group**), no. 1 (2019): 4503.

7- Babak Pakbin, Razzagh Mahmoudi, and Omid Fakhri. "PHYSICOCHEMICAL AND RHEOLOGICAL PROPERTIES OF DOOGH UNDER SPECIFIC FERMENTATION." The Journal of Microbiology, Biotechnology and Food Sciences 5, no. 3 (2019): 238.

8- Mahmoudi, Razzagh, Ata Kaboudari, and Babak Pakbin. "Applications of Medicinal Herbs and Essential Oils in Food Safety." Essential Oils-Oils of Nature. IntechOpen, 2019.

9- Mahmoudi, Razzagh, Bahareh Rahimi, Parviz Hassanzadeh, Peyman Ghajarbeygi, and Babak Pakbin. "Lead concentration in the muscles of slaughtered buffalos in northwest regions of Iran." Electronic physician 10, no. 1 (2018): 6148.

10- P Ghajarbeygi, R Mahmoudi, R Jafari Jozani, B Pakbin, Qualitative investigation of meat species in meat products by Real Time Polymerase Chain Reaction, Journal of Food Safety 38 (6), (2018):e12528.

11- Mahmoudi, R., Kosari-Nasab, M., Hassanzadeh, A., Eshghi, D., Kaboudari, A., Mohammadi, A., Maftooni, K., Pakbin, B., Panahzadeh, M., Jalal, H. and Pal, M.A., 2018. The Effects of Artemisia spicigera Essential Oil before and after Flowering against Bovine Mastitis Bacteria. International Journal of Food Nutrition and Safety, 9(1), pp.1- 7.

12- Mahmoudi, Razzagh, Masoud Kazeminia, Ata Kaboudari, SeyedehFaezehRahimi PirMahalleh, and Babak Pakbin. "A REVIEW OF THE IMPORTANCE, DETECTION AND CONTROLLING OF HEAVY METAL IN MILK AND DAIRY PRODUCTS." Malaysian Journal of Science 36, no. 1 (2017): 1-16.
13- Mahmoudi, Razzagh, Masoud Kazeminia, Peyman Ghajarbeygi, and Babak Pakbin. "An Introductory Review on Increasing the Survival of Probiotic Bacteria in Dairy Products Using Essential Oil." of 4 (2017): 2.
14- Beyragh, Ali Erafi, Razzagh Mahmoudi, Babak Pakbin, Ata Kabudari, Pir Mahalleh, and Seyyede Faezeh Rahimi. "THE EFFECTS OF CONTINUOUS WAVE LASER RADIATION IN THE VISIBLE REGION AGAINST E. COLI O157: H7 IN PROBIOTIC DOOGH." Carpathian Journal of Food Science & Technology 9, no. 1 (2017).
15- P Ghajarbeygi, M Palizban, R Mahmoudi, GJ Khaniki, B Pakbin. (2016) Aflatoxin M1 contamination of cow's raw milk in different seasons from Qazvin province, Iran. Journal of Biology and Today's World 5 (10), 173-176.
16- N Kohan-nia, B Pakbin, R Mahmoudi, O Fakhri. (2016) Effect of Packaging Material on Color Properties of Catsup Tomato Sauce. Journal of Applied Packaging Research 8 (2).
17- R Mahmoudi, K Amini, A Kaboudari, SFRP Mahalleh, B Pakbin (2016) Detection of ESBL Genes in Salmonlla enteritudis Isolated from Clinical Samples. Int. J. Food Nutr. Saf 7 (1), 10-25.
18- Ghajarbeygi, P., Palizban, M., Mahmoudi, R., Khaniki, G. J., & Pakbin, B. (2016). Aflatoxin M1 contamination of cow's raw milk in different seasons from Qazvin province, Iran. Journal of Biology and Today's World, 5(10), 173-176.
19- Mahmoudi, R., Bajalanlou, F., Ghajarbeygi, P., & Pakbin, B. (2016). Chemical Properties and Sensory Evaluation of Probiotic Yoghurt Manufactured with Aqueous Extract of Aloe vera. Journal of Biology and Today's World, 5(11), 197-202.
20- Rad, Z. S., Pakbin, B., Rahmani, K., Allahyari, S., Karami, K., Mahmoudi, R., ... & Kazeminia, M. (2016). Physicochemical Properties of Cornelian Cherry Fruit (Cornus mas L.) Grown in Qazvin province, Iran. Journal of Biology and Today's World, 5(12), 209-212.
21- Babak Pakbin, Seyyed Hadi Razavi and RAzzagh Mahmoudi. (2015) Physico-chemical and Microbiological characteristics of traditional Koozeh cheese, ripened in clay jug and plastic container. Carpathian journal of Food science and Technology. 7(4): 111-118.
22- Mahmoudi, Razzagh, and Babak Pakbin. "An Overview of the Hazards and Management Strategies for Antibiotic Residue in Honey." Int. J. Food Nutr. Saf 6, no. 3 (2015): 1-9.
23- Farahbakhsh, Ehsan, Babak Pakbin, Razzagh Mahmoudi, Farzad Katiraee, Naser Kohannia, and Soghra Valizade. "Microbiological Quality of Raisin Dried by Different Methods." Int. J. Food Nutr. Saf 6, no. 2 (2015): 62-66.
24- Jirdehi, Zeynab Samadi, Peyman Gajarbeygi, Ashraf Haj Hosseini, Babak Pakbin, Asghar Mohammadpoorasl, and Razzagh Mahmoudi. "Polychlorinated dibenzo-p-dioxins and

dibenzofurans and Dioxin-like polychlorinated biphenyls Levels in Raw Cow Milk from Various Locations in Qazvin, Iran." Int. J. Food Nutr. Saf 6, no. 1 (2015): 42-51.

25- F Pir Pedardar, O Eivaz Zadeh, B Pakbin, A Haj Hosseini Babaie, R Mahmoudi, K Mardani. Effects of Washing, Soaking and Cooking Processes on Diazinon Insecticide and Butachlor Herbicide Residues in White Rice. Int. J. Food Nutr. Saf 6, no. 1 (2015): 17-29.

26- Babak Pakbin, Seyyed Hadi Razavi, Razzagh Mahmoudi, and Payman Gajarbeygi. "Producing probiotic peach juice." Biotechnology and health sciences 1, no. 3 (2014).

27- Babak Pakbin, Karamatollah RezaeI, and Maryam Haghighi. "An Introductory Review of Applications of Ultrasound in Food Drying Processes." J Food Process Technol 6, no. 410 (2014): 2.

Presentations

1- International congress of oilseeds and oils, Turkey, 2011. Karamatollah Rezaee, Babak Pakbin and Afshin Rashidi. IRAN: Difficulties and challenges for vegetable oil trading.

Conference Papers

1- Pakbin, Babak. "ISO 50001 (energy management) in food industries." In *10th International Industrial Engineering Conference*. 2014.

2- Pakbin, Babak. Probiotic fruit juice production - A review. 3rd International Conference and Exhibition on Food Processing & Technology. July 21-23, 2014. Las Vegas, USA.

3- Babak Pakbin, Mahmoud Reza Taheri. Risk management (ISO 31000) in food industries. 1st International Management Tools and Techniques Conference, Tehran, Iran. (2015)

4- Babak Pakbin, Ali Khanjari and Afshin Akhondzadeh Basti. Probiotic Strawberry production. International Conference on Agricultural, Environmental and Biological Sciences. 15-16 Nov, 2016.

5- Babak Pakin, Paola Lisotto, Erwin C. Raangs, Alex W. Friedrich, John W. A. Rossen, and Silvia García-Cobos. **Pathogenic potential and antimicrobial resistance genomic analysis of human gut commensal Escherichia coli**. ECCMID, April, 2020.