



## Role of Novel Bacteriocin in Food Safety

Shan Mui\*

Department of Food Science and Technology, Shanghai Ocean University, Shanghai, China

### DESCRIPTION

Antimicrobial peptides or proteins known as bacteriocins are produced by various bacterial strains. This category of organic compounds has generated a great deal of interest for its potential use in food preservation due to their antibacterial action against bacteria that cause spoilage and food-borne pathogens. The many food kinds present a wide range of scenarios where food poisoning, pathogenic, or spoilage bacteria may proliferate, depending on the raw components, processing conditions, distribution, and consumption. In order to meet customer demands for foods that are fresh smelling, ready to eat, and lightly maintained, the use of bacteriocins may assist reduce the usage of chemical preservatives and/or the severity of heat and other physical treatments the most effective antibacterial medications for relieving human pain brought on by bacterial infections are antibiotics, which have been used extensively for decades. However, the advent of germs that are resistant to antibiotics has increased public awareness of the drawbacks of using antibiotics.

Because it is less harmful than antibiotics, the natural antimicrobial peptide bacteriocin has been chosen for use in food preservation and the treatment of infectious diseases in both animals and people. Due to its lower toxicity and proteinaceous makeup, bacteriocin has been selected as a viable medicinal option to replace chemicals and antibiotics in the future. Additionally, using antibiotics to eradicate pathogens may affect the gut microbiota since they kill both the targeted and nearby microbial communities as well. This disruption in the gut microbiota results in immunological, metabolic, and neurological diseases. Contrarily, bacteriocin alters the microbiota by eradicating the targeted pathogens while sparing the rest of the microbial community, as demonstrated in A naturally occurring antimicrobial peptide called bacteriocin is created by bacteria to defend themselves against other bacteria or diseases by suppressing or eliminating it without causing harm to

themselves. Lactic Acid Bacteria (LAB) and other bacteria, including *Escherichia coli*, *Bacillus* strains, and *Staphylococcus* strains, frequently produce bacteriocin. In terms of metabolism and physiology, LAB is a category of Gram-positive bacteria that are non-spore producing, highly acid-tolerant, and either rod-shaped or spherical in shape.

### CONCLUSION

By utilising carbohydrates as their primary diet and creating lactic acids as their main byproduct, they serve a crucial role in fermentation. Food and beverage spoilage is a constant worry for the food business since it can ruin the flavour of the products and expose consumers to certain foodborne illnesses. The five groups of dangerous microbes that can result in foodborne illness include bacteria, viruses, parasites, protozoa, and fungi. They are known as pathogens, and they are typically identified as the main contributors to food contamination and intoxication. When we consume contaminated food, our bodies react quickly as a result of the poisonous compounds that the bacteria in the food create. For instance, *Staphylococcus aureus* can result in small intestinal inflammation in people who eat food tainted with the enterotoxin it produces. An intestinal infection can result from ingesting food that contains living germs that can develop and reproduce in the human gastrointestinal tract. The use of bacteriocins offers an additional barrier to the formation of food-borne diseases and may enable the food industry to more accurately anticipate the storage lifetimes of its products. However, there are several obstacles in the way of bacteriocins' increased use in foods. Regulations requirements and limits will hinder the broad use of foods. It is necessary to improve our comprehension of how bacteriocin-resistant organisms originate in food and to create mitigation techniques. The enlarged potential of genetically altered starting cultures for the generation of bacteriocins may be hampered by a lack of consumer acceptability of genetically modified organisms in food.

**Correspondence to:** Shan Mui, Department of Food Science and Technology, Shanghai Ocean University, Shanghai, China, Email: mishan@gmail.com

**Received:** 29-Aug-2022, Manuscript no: JMBT-22-18290; **Editorial assigned:** 31-Aug-2022, PreQC no. JMBT 22-18290 (PQ); **Reviewed:** 14-Sep-2022, QC no. JMBT-22-18290; **Revised:** 22-Sep-2022, Manuscript no. JMBT-22-18290 (R); **Published:** 29-Sep-2022, DOI: 10.35248/1948-5948.22.14.522

**Citation:** Mui S (2022) Role of Novel Bacteriocin in Food Safety. J Microb Biochem Technol. 14:522.

**Copyright:** © 2022 Mui S. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.