

Discovery and development of novel anti-fungal peptides against foodspoiling fungi

ABSTRACT

Despite the extensive research carried out to develop natural antifungal preservatives for food applications, there are very limited antifungal agents available to inhibit the growth of spoilage fungi in processed foods. **Scope and Approach:** Therefore, this review summarizes the discovery and development of antifungal peptides using lactic acid bacteria fermentation to prevent food spoilage by fungi. The focus of this review will be on the identification of antifungal peptides, potential sources, the possible modes of action and properties of peptides considered to inhibit the growth of spoilage fungi. **Key Findings and Conclusions:** Antifungal peptides generated by certain lactic acid bacteria strains have a high potential for applications in a broad range of foods. The mechanism of peptides antifungal activity is related to their properties such as low molecular weight, concentration and secondary structure. The antifungal peptides were proposed to be used as bio-preservatives to reduce and/or replace chemical preservatives.

Keyword: Bio-preservation; Antifungal peptides; Drug discovery; Food applications; Mode of action; Natural preservatives