



## HALOTOLERANT *STAPHYLOCOCCUS CARNOSUS* FS 19 AS A POTENTIAL HISTAMINE DEGRADER

### TECHNOLOGY DESCRIPTION

This technology is used for the degradation of harmful histamine during manufacturing of fermented fish products which can cause adverse health effects to sensitive consumers.

### TECHNOLOGY FEATURES

This technology is the culture of potential halotolerant starter utilizes its amine oxidase enzyme to degrade histamine during application. The histamine degradation activities of the culture occurred at pH 6, in the presence of 9% salt concentration and temperature of 40°C which is suitable for fish fermentation. This culture reduces 27.7% of histamine concentration during fish sauce fermentation at 35°C for 120 days. It is easy to use and cost-effective but effective in reducing histamine without compromising the product quality. It is also suitable to be used in other fermented fish products.

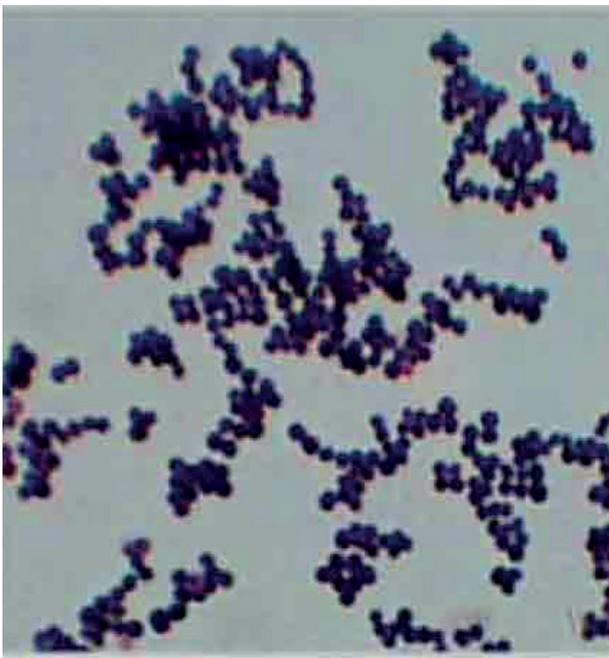
### ADVANTAGES

- Cost-effective
- Safe
- User friendly
- Suitable for any fermented fish products

### INDUSTRY OVERVIEW

#### Prospect: Food Manufacturer/Food Industries/Food Agencies

Fish consumption has undergone major changes in the past four decades. World apparent per capita fish consumption has been increasing steadily, from an average of 9.9 kg in the 1960s to 11.5 kg in the 1970s, 12.5 kg in the 1980s, 14.4 kg in the 1990s and reaching 16.4 kg in 2005. Fermented fish have, for many years, been considered as a Southeast Asian product. In emerging countries, especially in East and Southeast Asia, an expanding middle class is leading to increased fish consumption, in particular of high-quality and high-value products as purchasing power rises. Fish and fisheries products will continue to form an important component source of protein, essential fatty acids, mineral and vitamins to Malaysian diet. At present, fish constitutes about 60% of the animal protein intake with per capita consumption of almost 60 kg per annum. In year 2008 the fisheries sector produced 1.75 tonnes of fish with a value of Malaysian Ringgit (RM) 7.5 million. In Malaysia, there are 120 commercial and 5000 small and medium fish processing plants actively operated over the country. In 2010, the fisheries sub-sector showed an increase of 3.77% in production which is a total of 1,777,366 mt compared to 1,710,301 mt in 2009. The world seafood market, which encompasses fresh, canned and frozen seafood products, is expected to exceed \$370 billion by 2015, according to Global Industry Analysts. Histamine Degradator has a great potential market prospect and can be directly sold to fish and fermented fish product manufacturers, research agencies, Food/Fish industries and other related fish agencies.



**Prof. Dr. Fatimah Abu Bakar**  
 Faculty of Food Science and Technology  
 fatim@upm.edu.my