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ASIA EDITION

Thai researchers get NRCT awards

22 January 2013 | News | By BioSpectrum Bureau

Singapore: A research project titled, 'Development of Biological Process for Histamine Degradation in Fish Sauce by Histamine Dehydrogenase from Natrinema gari BCC 24369', was one-of-the-28 projects that were awarded Research Award 2012 by the National Research Council of Thailand (NRCT).

This project is a collaboration between Dr Wonnop Visessanguan, director of food biotechnology research Uuit, Prince of Songkla University and Chulalongkorn University.

Histamine is a biogenic amine naturally present in some fermented fishery products. Because of its toxicity at the high level, histamine is regulated in the fishery products. The regulation level of histamine in fish sauce is set at the range of 200-400 ppm. In this project, the research team developed a biological method for removing histamine in fish sauce. Of 156 extremely halophilic archaea isolated from various salt-fermented fishery products, HDS3-1 (Natrinema gari BCC 24369) exhibited the highest histamine degradation activity in the presence of high concentrations of NaCl.

The immobilized whole cell of HDS3-1 could be reused for the degradation of histamine up to seven cycles without any significant loss in activity. The treated fish sauce with immobilized whole cell showed no significant changes in sensory properties and consumer acceptability on the overall characteristics of the final fish sauce. This biological process provides an alternative for histamine degradation and has already been applied for patent in Thailand.

Apart from the above project, the work on "Development of Shrimp Viral Disease Detection using Monoclonal Antibodies" was also honored with NRCT Research Award, with Mr Sombat Rukpratanporn, research assistant of BIOTEC Monoclonal Antibody Production, serving as a collaborator.

In the PhD Dissertation category, Dr Pornkamol Unrean, BIOTEC researcher at Biochemical Engineering and Pilot Plant Research and Development Unit (BEC), was recognized for her thesis titled, 'Strain Optimization Through Theoretical and

Experimental Tools', supervised by Prof Friedrich Srienc of University of Minnesota-Twin Cities, US.

Dr Walaiporn Charoensapsri, from Chulalongkorn University, received an NRCT PhD Dissertation Award for her thesis titled, 'Characterization and Functional Analysis of Prophenloxidase System-associated Genes from the Black Tiger Shimp Penaeus monodon' under the supervision of Prof Anchalee Tassanakajon, head of department of Biochemistry, Chulalongkorn University and director of Center of Excellence for Molecular Biology and Genomics of Shrimp and Dr Piti Amparyap, BIOTEC researcher at Center of Excellence for Molecular Biology and Genomics of Shrimp.