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Biography

Uraiwan Intamaso have completed her PhD from Montana State University, USA. Currently, she is an Associate Professor in Microbiology, Division of Medical Technology, Faculty of Allied Health Sciences, Burapha University, Thailand. Her scientific fields mainly focus in Molecular Virology and now research interests expand to an innovative approach in viral detection and vaccines. She was invited as a keynote speaker on the topic advance and innovations to detect enteric viruses in seafood and a speaker on the topic the emergence of uncommon genotypes of rotaviruses in Thailand at the 7th International Conference on Agriculture, Chemical, Biological and Environmental Sciences on 22-24 May 2017 at Kuala Lumpur, Malaysia. She enjoys solving scientific problems and shares research knowledge with other scientists.

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CONSTRUCTION AND CHARACTERIZATION OF YEAST DISPLAY OF VIRAL CAPSID PROTEIN: A PRELIMINARY IMPLICATION FOR PRODUCTION OF ORAL VACCINE AGAINST NERVOUS NECROSIS VIRUS

Nervous necrosis virus (NNV) causes viral nervous necrosis that often reaches higher than 99% mortality rate in hatchery-reared larvae and juveniles. There are still no effective vaccines currently available for NNV. Yeast surface display of capsid proteins of red-grouper-nervous- necrosis virus (RG-NNV) was constructed aimed at developing an oral vaccine in fish. RG-NNV infection in fingerlings or juveniles that showed clinical signs of abnormal swimming patterns was proved by RT-PCR and DNA sequencing. The 2,100 bp of DNA fragment containing RNA2 capsid protein of RG-NNV fused to AGα1 of S *cerevisiae* in linearized pPIC9K vector was electroporated into P *pastoris* GS115. Yeast auxotroph isolates were preliminary selected by histidine-producing ability and geneticin resistance. The recombinant yeasts were cultured in buffered minimal glycerol-complex medium (BMGY) and induced with 0.5% methanol in buffered minimal methanol complex medium (BMMY). Only 50% of the expression of the fusion proteins was detected by Western blot. Immunofluorescence labeling confirmed the correct localization and the predicted tertiary structure proposed the exposed conformation of the fusion protein on the cell wall. Optimization of protein expression is required for fully surface protein expression before the evaluation of the possible use of the capsid protein displayed yeast as an oral vaccine against RG-NNV infection.

Note: