

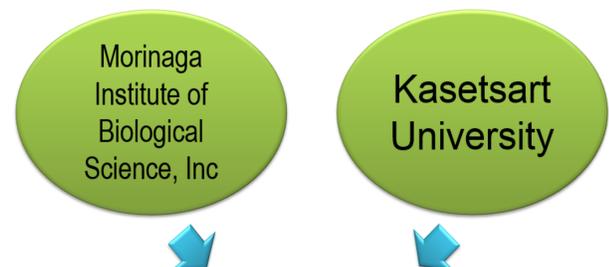
MIOBS is manufacturing the immune-chemical products like enzyme-linked immune-adsorbent assay (ELISA) kits for research and food safety purposes. Morinaga bio-product technology is more advanced and highly esteemed not only in Japan, but worldwide.



- Morinaga food allergen analysis technology was transferred to KU-IFRPD
- Set up food allergen analysis laboratory at FQA, IFRPD Kasetsart University and open for food allergen detection service.



Under the strategy of Morinaga Group to diversify its activity worldwide, MIOBS started the collaborative research works on "Food Allergy" with distinguished Thai organizations. The challenge is to introduce food allergen analysis to Thailand aiming to strengthen the safety of Thai food products. To achieve the goal the fundamental information about food allergy in Thailand were required through many activities such.

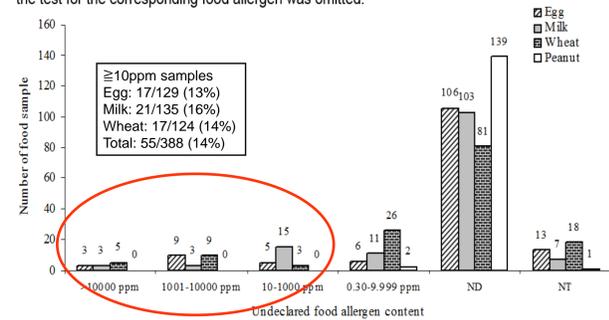


The collaborative research works on "Food allergy"

- Survey of undeclared food allergen in commercial Thai food product under on food allergen labeling regulation. The result revealed 13-16% of commercial Thai product contained undeclared food allergen, this suggest the potential risk for food allergic patients.

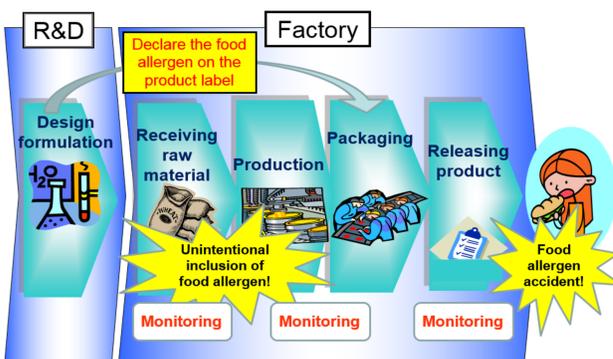


Sample collection: Thai pre-packed, processed food products were collected from the local market in Thailand. Test method: The food products, totally 142 samples, were tested for undeclared Egg, Milk, Wheat or Peanuts by Food allergen test kits. In case, Egg, Milk, Wheat or Peanuts was labeled, the test for the corresponding food allergen was omitted.



Surojanametakul V. et al., Food Control, 23, 1-6 (2012)

The collaborative research works on "Perspective of Thai food manufacturer"



Upon the investigation, MIOBS confirmed that the food allergy has become the emerging food safety in Thailand, and have confident that Morinaga technology shall contribute to Thai society with respect to protect the food allergic individual and to increase the reliability of export Thai food products.

Feasibility study for ELISA kit production by Thai staff based on Morinaga's technology was performed and evaluated.

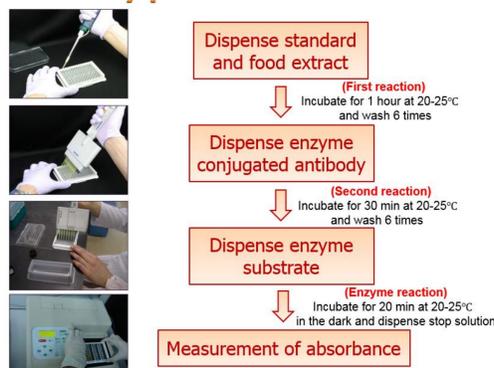
- Establish the lab for production and trial production of food allergen ELISA kit.



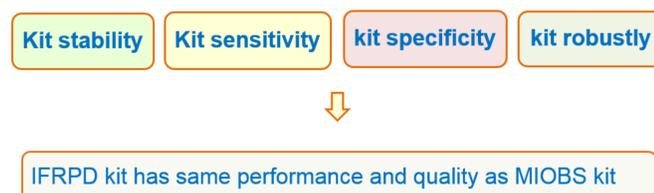
- Transfer Morinaga technology for production and quality control of ELISA kit to IFRPD staffs.



Assay procedure for ELISA



Performance and Quality check



Through these collaborative research and feasibility study, Kasetsart University and MIOBS decide to establish the joint venture company, Morinaga Bio-science (Thailand) Co.,Ltd.(MBST) to contribute to Thai food industry and MBST business was obtained the promotion (Category 7.19: Biochemistry) of Board of Investment (BOI), Thailand by the recommendation of National Science and Technology Development Agency (NASTDA), Thailand.



MBST manufactures can produce the food allergen analysis kit and the kit have same performance and quality as MIOBS kits.

Advantage of MBST kits

- Innovative extraction** → Using an innovative extraction solution, the extraction ability is significantly increased
- Special antibodies** → Our antibodies was designed to be able to detect the target food protein even after the highly processing. Accordingly, the kits can apply for the examination of highly processed foods and swab samples after various food processing.
- High sensitivity** → The sensitivity of the target (allergenic) food protein is 0.31 µg target food protein / g food. The dynamic range detectable by this kit is 0.78 - 50 ng/ml (0.31-20 µg/g).
- High specificity** → The specially prepared antibody can achieve less cross-reactivity against the various food materials.



The purpose of the establishment of MBST is to produce Bio-technology products for research; monitoring food safety including other field such an environmental chemistry.

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