



On-site detection of food allergens

EU-Marie Curie IAPP: IMProved food safety monitoring through ENhanced imaging NanoplasmonicS. IMPRESS (2011-2015)

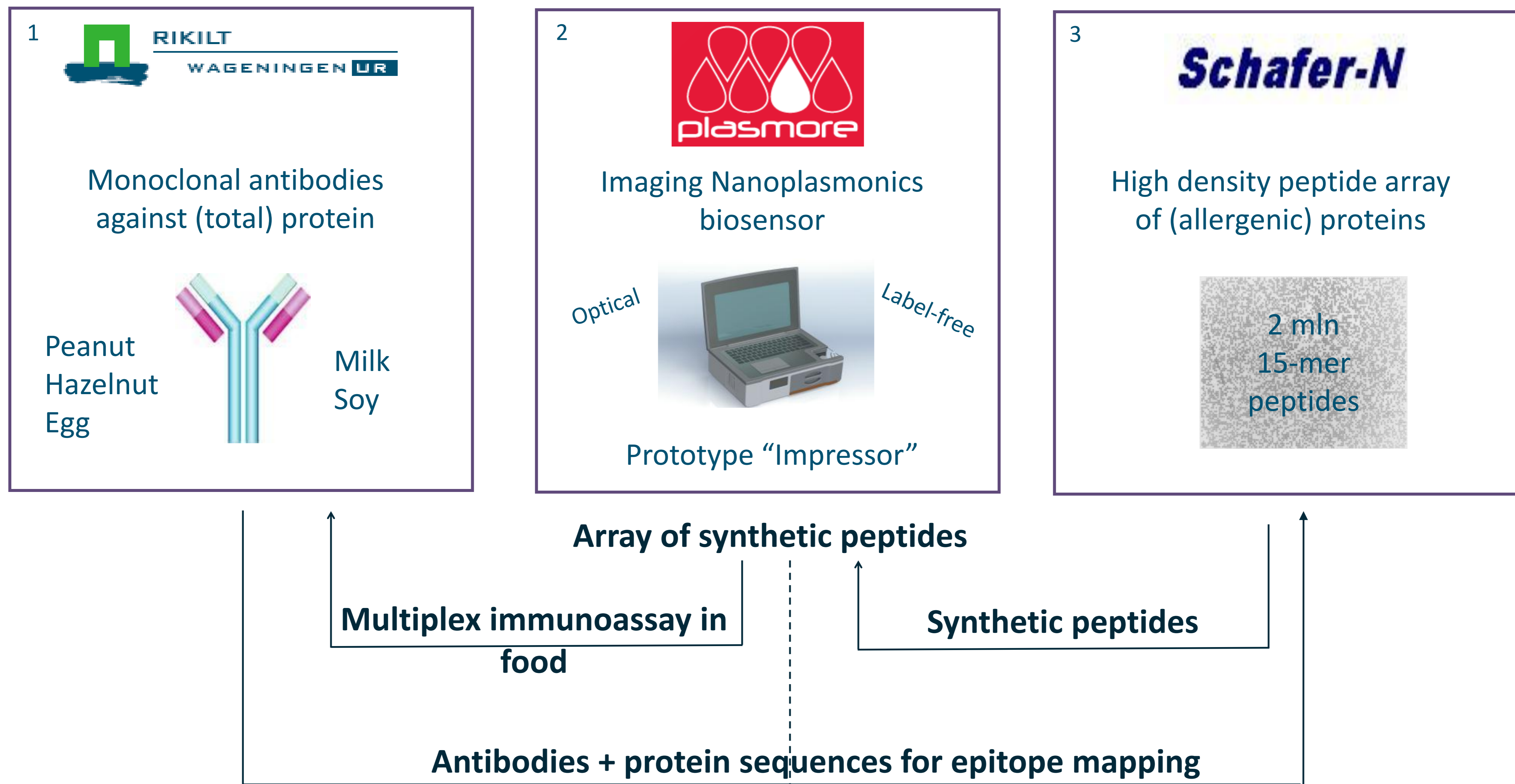
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Partners
+
expertise

Exchange
of
knowledge

Results
of the first
example

Conclusions



Cow milk protein (k-casein) detection using a synthetic peptide

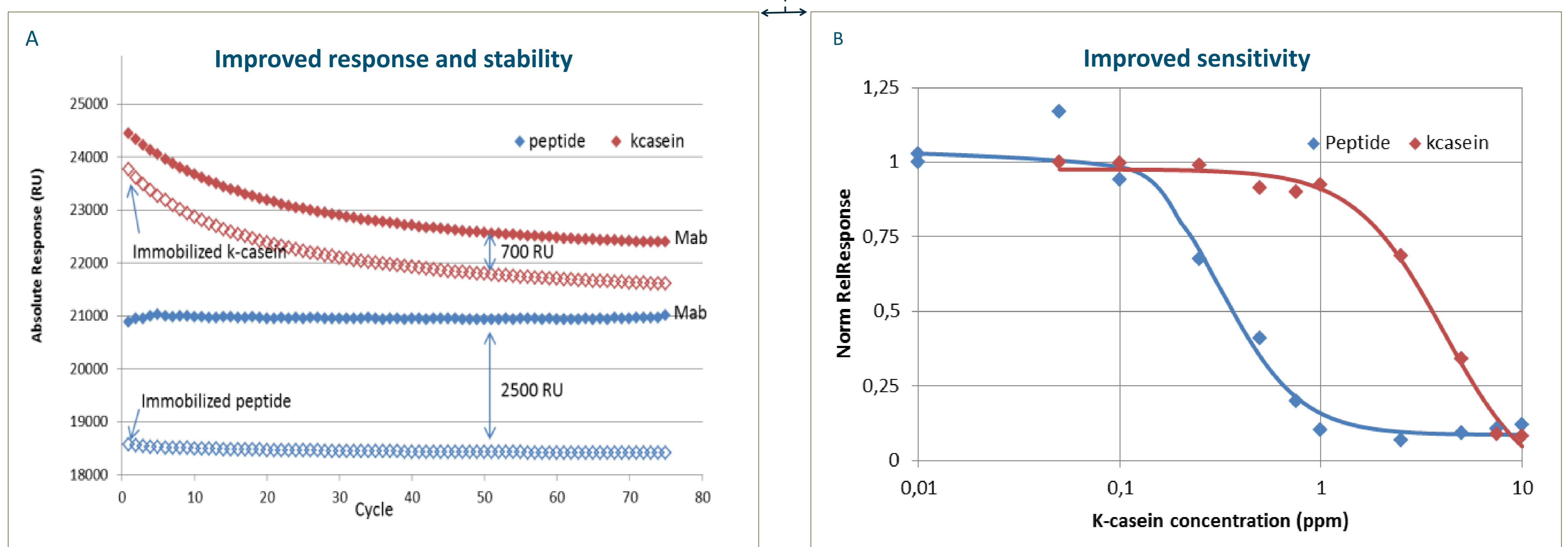


Figure 1. (A) Absolute responses obtained in the Biacore after the immobilization of k-casein (mw 19000 Da) and the epitope-related peptide (mw 1246 Da) and after the binding of the monoclonal antibody (Mab), showing the higher responses and better stability (during 75 cycles of Mab injection and regeneration) with the immobilized peptide. (B) An improved sensitivity is observed by the application of the immobilized peptide in combination with a lower amount of Mab.

The exchange of knowledge results in the identification of monoclonal-specific epitopes on food proteins. Biosensor chips with epitope-related synthetic peptides give high stability (reusable) and improved sensitivity. An array of allergenic protein-related peptides with a mixture of the specific monoclonal antibodies in a label-free transportable biosensor will have high (commercial) value for the on-site detection of food allergens.

Acknowledgement

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