



FOR THE QUALITY AND SAFETY OF FOOD

New Biosensor: IMPRESSOR



Imaging Nanoplasmonics biosensor (iNP) + Disposable nanochip customized for the detection of allergens, toxins and antibiotics in food

- ✓ **Portable**
iNP allows simplification of the optical setup
- ✓ **Affordable**
simple optics + low cost chip production
- ✓ **Multiplex/High Density Arrays**
wafer scale production + high lateral resolution
- ✓ **Sensitive**
local sensitivity comparable to commercial SPR
- ✓ **Fast**
sample-to-result around 30 min

iNP allows the study of several biomolecular interactions in real time as it is very sensitive to local changes of refractive index caused by the absorption of a molecule in the proximity of a metallic nanoplasmonic surface.

Designed To Help

- Industries and distributors**
To provide safer and healthier food products
- Public regulatory bodies**
To improve the quality of the food control tests reducing the assay costs
- End-users**
To verify the quality of everyday food products

Technological innovation

Within the IMPRESS project various allergens are been mapped for their epitopes to produce a microarray for their detection in food matrices using an iNP device, the IMPRESSOR. The exchange of knowledge results in the identification of monoclonal-specific epitopes on food proteins. Biosensor chips with synthetic peptides give high stability and improved sensitivity. An array of epitope-containing peptides of allergenic proteins together with a mixture of the specific monoclonal antibodies in a label-free portable biosensor will have high commercial value for the on-site detection of food allergens and can have a huge impact in the food monitoring protocols.

IMPRoved food safety monitoring through Enhanced imaging nanoplasmonics

Within the IMPRESS project an imaging nanoplasmonics (iNP) sensor for a fast screening of the quality and safety of food is being developed.

The IMPRESSOR results of the combination of expertise from:

RIKILT, the lead partner, which has extensive experience in immunoassay development namely on the detection and identification of contaminants in food and feed;

Plasmore SRL an SME that is specialized on the development of nanoplasmonic biosensing devices by using Nanotechnology. Plasmore has a patent on their nanochip fabrication process;

Schafer-N an SME that has long experience in high-quality custom peptides. Schafer-N has developed an unique ultra-high-density peptide microarray technology.

For more information please visit us on the Web at: www.foodimpresor.eu

Partnership

