

Soggetto coordinatore	Istituto di Scienze delle Produzioni Alimentari CNR
Titolo del progetto	Contaminants in food and feed: Inexpensive detection for control of exposure
Acronimo	CONffIDENCE
Descrizione del progetto	<p>The project will develop rapid tests for chemical contaminants to analyse and detect mycotoxins, heavy metals, biotoxins, using multiple screening assays and multi component dipstick assays.</p> <p>The presence of hazardous chemicals in food remains a major concern. Recent food contamination incidents contribute to fears about the safety of food. Currently, a variety of analytical test methods are used both for goods produced in the EU and imported from third countries. The CONffIDENCE project aims to develop faster and more cost-efficient methods for the detection of a wide range of chemical contaminants in different food and feed commodities. These methods will not only save precious time but will also permit more food/ feed samples to be monitored due to the lower cost per test.</p>
TA/SG	TA6-SG11
Riferimento Bando	VII Framework Programme, FAFB
Valore del progetto	€ 241.00,00
Pubblicazioni	<p>TA di riferimento: TA1, TA3, TA4. TA6 TA6 for CBRNE detection (6.1, 6.2, 6.3, 6.4) TA6.4 Tecnologie microfluidiche accoppiate a nanostrutture molecolari per la detezone di biohazard Capability (detection of intentional contamination of food and environment)</p> <p>DNA, sonde specifiche, Real Time PCR</p> <p>Blaiotta G., Fusco V., Ercolini D., Pepe O., Coppola S. Diversity of <i>Staphylococcus</i> strains based on partial kat (catalase) gene sequences and designs of a PCR RFLP assay for identification and differentiation of coagulase positive species (<i>S. aureus</i>, <i>S. delphini</i>, <i>S. hyicus</i>, <i>S. intermedius</i>, <i>S. pseudintermedius</i>) JOURNAL OF CLINICAL MICROBIOLOGY 2010, 48, 192-201</p> <p>Fusco Va, Quero G.M., Morea M., Blaiotta G., Visconti A. Rapid and reliable identification of <i>Staphylococcus aureus</i> harbouring the enterotoxin gene cluster (<i>egc</i>) and quantitative detection in raw milk by real time PCR. Journal of Food Microbiology, 2011, 144, 528 - 537</p>

LC-MS, chimica analitica

Lattanzio V.M.T., Della Gatta S., Godula M., Visconti A Quantitative analysis of mycotoxins in cereal foods by Collision Cell Fragmentation - High Resolution Mass Spectrometry: performances and comparison with triple stage quadrupole detection. FOOD ADDITIVES AND CONTAMINANTS 2011, 28, 1424-1437

Lattanzio V.M.T., Della Gatta S., Suman M., Visconti A Development and in-house validation of a robust and sensitive solid phase extraction - LC-MS/MS method for the quantitative determination of aflatoxins B1, B2, G1, G2, ochratoxin A, deoxynivalenol, zearalenone, T-2 and HT-2 toxins in cereal based foods. RAPID COMMUNICATIONS IN MASS SPECTROMETRY 2011, 25:1869-1880.

Lattanzio V.M.T., Solfrizzo M., De Girolamo A., Chulze S.N., Torres A.M., Visconti A. LC-MS/MS characterization of the urinary excretion profile of the mycotoxin deoxynivalenol in human and rat . JOURNAL OF CHROMATOGRAPHY B 2011, .: 879, 707- 715

Monaci L., De Angelis E., Visconti A Determination of deoxynivalenol, T-2 and HT-2 toxins in a bread model food by liquid chromatography - high resolution - Orbitrap - Mass Spectrometry equipped with a high-energy collision dissociation cell Journal of Chromatography A, 2011, 1218, 8646-8654.

Solfrizzo M., Gambacorta L., Lattanzio V.M.T., Powers S., Visconti A. Simultaneous LC-MS/MS determination of aflatoxin M1, ochratoxin A, deoxynivalenol, de-epoxydeoxynivalenol, \pm and 2 -zearalenols and fumonisin B1 in urine as a multi-biomarker method to assess exposure to mycotoxins. ANALYTICAL AND BIOANALYTICAL CHEMISTRY 2011, 401, 2831-2841

Immunoassays, Lateral flow, protein chips, Quantum dots, nanodispositivi

Lippolis V., Pascale M., Valenzano S., Pluchinotta V., Baumgartner S., Krska R., Visconti A. A rapid fluorescence polarization immunoassay for the determination of T-2 and HT-2 toxins in wheat ANALYTICAL AND BIOANALYTICAL CHEMISTRY 2011, 401: 2561- 2571

Cimaglia F., Aliverti A., Chiesa M., Poltronieri P, De Lorenzis E., Santino A., Sechi L.A. Quantum dot nanoparticle-based lateral flow assay for rapid detection of Mycobacterium species using anti- FprA antibodies. Nanotechnology Development, (2012), Vol 2, No 1:e5.

De Girolamo A., McKeague M., Miller J.D., De Rosa M.C., Visconti A. Determination of ochratoxin A in wheat after clean-up through a DNA aptamer-based solid phase extraction column. FOOD CHEMISTRY, 2011, 127, 1378-1384

Poltronieri P, Cimaglia F, Santino A, De Blasi MD, Krizkova-Kudlikova I, Liu S, Wang Y-U, Wang Y. Protein chips for detection of mite allergens using

	<p>Kunitz-type protease inhibitors. <i>Biotechnol. J.</i>, 2010, vol 5, n. 6, 582 -587.</p> <p>Poltronieri P, Shaoyang Liu, Cimaglia F., Santino A., Wang Y. Characterization of Kunitz-type inhibitor B1 performance using protein chips and AFM. <i>Sensor Actuators B, Chemical</i>, 2012, Available online 2012 doi:10.1016/j.snb.2012.04.013</p> <p>Ragona M., Mazzocchi M., Zanolli A., Alldrick A.J., Solfrizzo M., van Egmond H.P. Testing a toolbox for impact assessment of food safety regulations: maximum levels for T-2 and HT-2 toxins in the EU. <i>QUALITY ASSURANCE AND SAFETY OF CROPS & FOODS</i> 2011 3, 12-23</p> <p>Solfrizzo M., De Girolamo A., Gambacorta L., Visconti A., van Egmond H.P., Stroka J. Determination of fumonisins B1 and B2 in corn based foods for infants and young children by LC with Immunoaffinity column clean-up: interlaboratory validation study. <i>JOURNAL OF AOAC INTERNATIONAL</i> 2011, 94, 900-908</p>
<p>Curriculum</p>	