

# FOODQUALITY

Food and Feed Analysis



*Safety and added  
value, guaranteed*

**BioSystems**  
REAGENTS & INSTRUMENTS

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• Certified Management System  
• EN ISO 9001



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REAGENTS & INSTRUMENTS

# FOODQUALITY

Modern society demands safe foods that are readily traceable and properly labelled. Current regulations and standards (ISO, BRC, IFS) are used to safeguard food safety and ensure that consumers have quality products of high added value.

To avoid a public health risk, food hazards are tested using a variety of techniques, among them, immunoassay due to its reliability, easy management and low cost. In addition to microbiology, which plays an indisputable role in food safety, risk substances can be divided into several groups, most notably, allergens, mycotoxins, sulfites and histamine, among others. Several renowned world organizations (WHO/FAO, EFSA, FDA, etc.) also continuously review these substances to identify new hazards.

Furthermore, processed foods require comprehensive raw material and finished product testing in production plants to minimize cross-contamination. Also, sugars, organic acids, additives and other components in food and beverages are key parameters in order to control processes, quality and nutrition facts.

**BioSystems, S.A.**, leaders in the manufacturing and distribution of reagents and instruments for the clinical diagnostic and agri-food industries, provide testing laboratories and food companies with the analytical tools and pre- and post-sales technical support needed to ensure the quality and safety of their products.

Best regards,



Antonio Elduque  
Director General



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## Allergens

### ADVANTAGES

- Rapid and standard methods (20' + 20' + 20')
- Easy handling, low cost
- Reliable results
- High sensitivity
- Validated in different matrices

*Food allergens are protein substances from different sources that can cause mild-to-severe immune reactions when consumed by sensitive individuals, even at low concentrations. Potentially allergenic foods are listed in Annex II of Regulation (EU) 1169/2011 and in bodies of regulation around the world, and labelling is compulsory.*

*It is estimated that 2% to 4% of adults and 6% of children have some kind of food allergy, a trend on the rise in recent years. Consequently, these substances must be detected in raw materials and finished products to ensure consumer safety.*

The ELISA allergen test kits are a rapid, efficient tool for analyzing the presence of these substances at very low concentrations, due to the specificity of antigen-antibody binding reactions.



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## Gluten

### ADVANTAGES

- |  |   |
|--|---|
| <b>ELISA</b><br>Rapid methods<br>Easy handling, low cost<br>Reliable results<br>High sensitivity | <b>RAPID TESTS</b><br>Results in 12 minutes<br>All items needed for on-site testing included<br>Easy handling, low cost<br>Reliable results<br>High sensitivity |
|--|---|

*Gluten is the protein portion of various cereal grains (wheat, rye, barley and oats). Continuous consumption by people affected by celiac disease will cause the condition to worsen and become chronic. Consequently, it is included in the allergic substances annex of Regulation 1169/2011 and must be listed on the label.*

*Because the condition is common, a legal limit has been set for the labelling of gluten-free products (20 ppm) to inform consumers and provide products that improve their quality of life.*

The ELISA Sandwich kits are used to determine the substance in various raw materials and finished products quickly and efficiently. The rapid kits are used to detect gluten on surfaces and in foods and include all items needed for on-site gluten testing, in accordance with current legislation.



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Allergens	Tests	Code	
<b>Allergens ELISA</b>	Milk (β-lactoglobulin)	96 wells	14112
	Milk (Casein)	96 wells	14113
	Milk Total	96 wells	14123
	Egg (White)	96 wells	14117
	Ovalbumin	96 wells	14125
	Lysozyme	48 wells	14122
	Fish	96 wells	14118
	Crustaceans (Tropomyosin)	96 wells	14116
	Almond	96 wells	14111
	Cashew	96 wells	14114
	Lupine	96 wells	14121
	Hazelnut	96 wells	14120
	Peanut	96 wells	14126
	Walnut	96 wells	14130
	Pistachio	96 wells	14127
	Mustard	96 wells	14124
	Sesame	96 wells	14128
	Soy	96 wells	14129
Coconut	96 wells	14115	

Gluten	Tests	Code	
<b>Gluten ELISA</b>	Gluten (Gliadin)	96 wells	14119
<b>Gluten RAPID TEST</b>	Gluten Flow Through Food	10 tests	14206
	Gluten Flow Through Surfaces	10 tests	14207

## Histamine

### ADVANTAGES

- Rapid and sensitive methods
- Validated in different matrices
- Easy handling, low cost
- Reliable results
- Detection limits in compliance with current legislation

*Biogenic amines are produced by microorganism action on amino acids present in foods. The substances cause some odors and can trigger adverse effects for health at high concentrations.*

*Histamine – a biogenic amine present in fish, wine and cheese – is the result of bacterial decarboxylation of histidine, an amino acid which causes headaches, vasodilation and increased temperature at high concentrations, an effect also known as histamine shock. The maximum limit for histamine in fish has been set at 100 to 200 ppm, according to the body of legislation.*

The histamine immunoassay kits provide efficient histamine testing in a variety of matrices, using different formats (rapid tests or ELISA kits).



	Tests	Code	
<b>Histamine</b>	Histamine High Sensitivity	96 wells	FC E-3100
	Histamine Fast	48 wells	FC E-3600
	Histamine Rapid Test	24 tests	FC L-3200





## Mycotoxins

### ADVANTAGES

- Rapid and standard methods
- Easy handling, low cost
- Reliable results
- Detection limits in compliance with current legislation
- Validated in multiple matrices
- Pretreatments appropriate for each matrix

*Mycotoxins are toxins produced by fungi from the Fusarium, Aspergillus and Penicillium genera. These molds colonize a wide variety of products, such as cereals, nuts, dried fruits, grapes, coffee and cocoa, and have carcinogenic or neurotoxic effects. They are highly stable to processes used in the food industry and pose a high risk to health and, therefore, must be tested, as established in current regulations.*

ELISA kits and rapid tests to determine mycotoxins are a rapid, efficient tool to analyze the presence of these substances at the levels required by the legislation and have been validated in various matrices.



	Mycotoxins	Tests	Code
<b>Mycotoxins ELISA</b>	Aflatoxin B1	96 wells	14100
	Aflatoxin B1 Sensitive	96 wells	14101
	Total Aflatoxin	96 wells	14104
	Aflatoxin M1 Fast	96 wells	14102
	Aflatoxin M1 Sensitive	96 wells	14103
	Deoxynivalenol (DON)	96 wells	14106
	Fumonisin	96 wells	14108
	Ochratoxin A	96 wells	14105
	T-2 Toxin	96 wells	14109
	Zearalenone	96 wells	14110
<b>Mycotoxins RAPID TEST</b>	Aflatoxin B1	10 tests	14200
	Total Aflatoxin	10 tests	14201
	Ochratoxin A	10 tests	14202
	Ochratoxin A in wine	10 tests	14203
	Zearalenone	10 tests	14204
	Deoxynivalenol (DON)	10 tests	14205



Mycotoxins	Cereals	Dairy Products	Nuts	Feed	Coffee	Beverages	Spices	Honey
<b>Mycotoxins ELISA</b>								
Aflatoxin B1	●		●	●				●
Aflatoxin B1 Sensitive	●		●	●			●	
Total Aflatoxin	●		●	●			●	
Aflatoxina M1		●						
Deoxynivalenol (DON)	●			●		●		●
Fumonisine B1	●							
Ochratoxin A	●	●			●	●	●	
T-2 Toxin	●							
Zearalenone	●	●		●				
<b>Mycotoxins (Rapid Test)</b>								
Aflatoxin B1	●		●					●
Total Aflatoxin	●		●					
Ochratoxin A	●				●	●		
Zearalenone	●							
Deoxynivalenol (DON)	●							

Matrices validated in the mycotoxin determination kits.

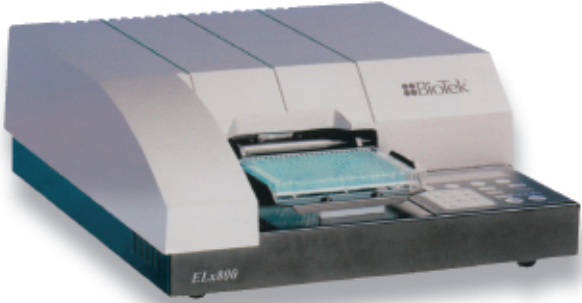
## ELISA Instruments

*Robust, easy-to-use, highly reliable equipment for ELISA plate washing and reading*



### ELx50/8: ELISA plate washer

The Bio-Tek plate washer automates plate washing processes and includes a dispensing mode.



### ELx800: ELISA plate reader & SW Gen5

The Bio-Tek plate reader is based on absorbance reading at the wavelengths used in ELISA assays (405, 450, 490, 630). The reader comes with user-friendly advanced software (Gen 5) to facilitate data management as well as to obtain and adjust concentrations to various calibration curves.



Software Gen5 data management: Flexible, robust and efficient software. Used together with ELISA reader, Gen5 optimizes time and allows the management of the obtained data.



## Enzymatic / Chemical Reagents

### ADVANTAGES

Liquid reagents, stable until the expiry date  
Dedicated reagents & ready to use  
Standard included in the kit

*Enzymatic and chemical reagents are simple and efficient methods used to measure different substances in food and beverages through photometry. BioSystems reagents are a sensitive and specific way to identify sugars, organic acids, additives and other components in food and beverages, in order to control processes, quality and nutrition facts.*



	Reagent	Code
<b>Sugars</b>	D-Glucose/D-Fructose	12800
	Sucrose/Total Sugar	12819
<b>Organic Acids</b>	D-Lactic Acid	12801
	L-Lactic Acid	12802
	L-Malic Acid	12803
	Acetic Acid	12810
	Gluconic Acid	12811
	Tartaric Acid	12808
	Citric Acid	12825
	Ascorbic Acid	12828
<b>Sulfites</b>	Pyruvic Acid	12826
	Total Sulfite	12806
<b>Nitrogenate Substances</b>	Free Sulfite	12813
	Primary Amino Nitrogen	12807
<b>Cations</b>	Ammonia	12809
	Iron	12817
	Calcium	12824
	Copper	12814
<b>Other Parameters*</b>	Potassium	12823
	Acetaldehyde	12820
	Glycerol	12812
	Colour (Red wines)	12816
	Polyphenols (Folin-Ciocalteu)	12815
<b>Controls</b>	Histamine	12829
	Wine Control (White)	12822
	Wine Control (Red)	12821
<b>Multicalibrator</b>	Sulfites Control	12825
	Enological	12818

\*Nitrite & nitrate coming soon!

## BioSystems Instruments

*'Robust, easy-to-use, highly reliable equipment for photometric analysis'*



### **Y 15**

Random access analyzer, 150 test/hour  
Filters: 340, 405, 420, 520, 560, 600, 620, 635, 670 nm  
User-friendly Software



### **Y 350**

- Semi-Automatic Analyzer
- Led Technology. The only unit on the market with a complete set of LEDs optimized to cover different wavelengths. LEDs: 280, 340, 405, 420, 505, 520, 560, 600, 635, 750 nm.
- Minimal reagent consumption.
- Low maintenance.
- Preprogrammed enzymatic and chemical kit methods, validated by the R&D Department.
- USB port for data export.
- Battery-operated.
- Can be used in fieldwork.
- User-configurable accessory.
- User-friendly software.



### **Y 25**

Random access analyzer, 240 test/hour  
Filters: 340, 405, 420, 520, 560, 600, 620, 635, 670 nm  
User-friendly Software, Fridge on board

