PROTEON GLUTEN EXPRESS TECHNICAL DATA SHEET

Scope

Proteon Gluten Express is an immunochromatographic test for the detection of gluten that uses the gliadin protein as an indicator. Gluten is a group of proteins made up of prolamines and glutelins. Half of gluten is made up of gliadin, which belongs to the prolamines family. The test is also capable of detecting the prolamins present in other cereals in addition to wheat, such as barley, rye and oats.

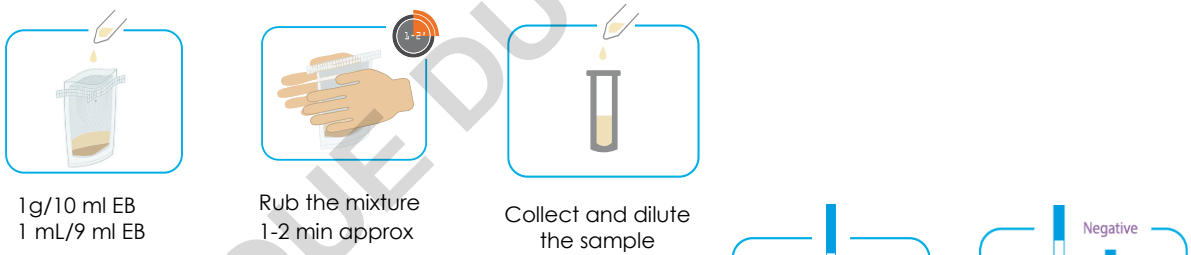
Applicability

The Proteon Gluten Express test can be applied to detect gluten in solid and liquid foods, rinse waters and work surfaces.

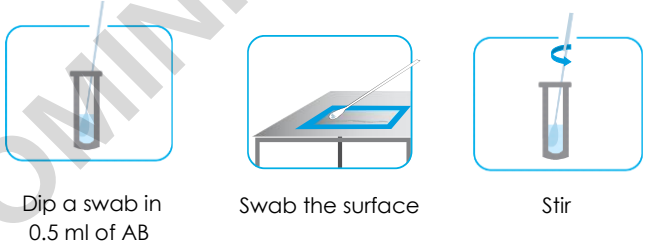
Test procedure

Detailed information on the procedure is available in the product script. The test procedure is presented schematically below:

Analysis of food and rinse waters



Analysis of surfaces



DOMINIQUE DUTSCHER SAS

ZEULAB, S.L. • C/Bari, 25 dpdo. 50197 Zaragoza (SPAIN) • +(34) 976 731 533 • info@zeulab.com • www.zeulab.com

Analytical parameters of the test

Table 1. Analytical parameters of the Proteon Gluten Express test

Detection limit in food[1] **(dilution Sample/Analysis Buffer)**	3 ppm gluten (dilution 1/30) 10 ppm de gluten (dilution 1/100) 20 ppm gluten (dilution 1/200)
Detection limit on surfaces[2]	1.0 µg gluten

[1]The detection limit of the test is calculated using the POD (Probability of detection) method.

[2]In the application of work surfaces the detection limit was calculated by analyzing a stainless steel surface.

The Proteon Gluten Express test has been validated in different kinds of foods. The matrices studied were: flour, semolina, dairy products, baked products, cereal products, meat products, fish products, vegetables, broths, soups, creams, dried mixtures, preparations for sauces, spices, condiments, sugars, ready meals, fatty foods, acidic foods and drinks.

Specificity

PROTEON GLUTEN EXPRESS is specific for the detection of prolamines in wheat (gliadin), barley (hordein), rye (secalin) and some immunogenic varieties of oats (avenin) that may pose a risk for some celiacs.

Specificity was evaluated against a panel of basic ingredients. The results are shown in Table 2.

Table 2. Results of the specificity assays of the Proteon Gluten Express test

Ingredient	*Result*	*Ingredient*	*Result*	*Ingredient*	*Result*
Raw almond	NEGATIVE	Sesame	NEGATIVE	Chickpeas	NEGATIVE
Macadamia nut	NEGATIVE	Millet	NEGATIVE	Lentils	NEGATIVE
Cashew	NEGATIVE	Teff	NEGATIVE	Peas	NEGATIVE
Nut	NEGATIVE	Quinoa	NEGATIVE	Red beans	NEGATIVE
Brazil nut	NEGATIVE	Amaranth	NEGATIVE	Cocoa	NEGATIVE
Pecan	NEGATIVE	Corn	NEGATIVE	Coconut	NEGATIVE
Pistachio	NEGATIVE	Rye	POSTIVE	Milk	NEGATIVE
Hazelnut	NEGATIVE	Barley	POSTIVE	Egg	NEGATIVE
Peanut	NEGATIVE	Oats	POSITIVE	Raw meat (chicken)	NEGATIVE
Poppy seed	NEGATIVE	Soy	NEGATIVE	Raw meat (beef)	NEGATIVE
Sunflower seed	NEGATIVE	Cornmeal	NEGATIVE	Raw fish (cod)	NEGATIVE
Pinions	NEGATIVE	Lupine	NEGATIVE	Crustacean (prawns)	INVALID
Pumpkin seed	NEGATIVE	Integral rice	NEGATIVE	Kiwi	NEGATIVE
Buckwheat	NEGATIVE	Rice	NEGATIVE	Carrot	NEGATIVE

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Conversion factors

Table 3. Conversion factors between gliadin and gluten

Gliadin	Gluten
1 ppm	2 ppm

Bibliography

AACC, C., (2000). Approved methods of the American association of cereal chemists. Method 10-50D, Methods, 54, pp. 21.

Appendix F: Guidelines for Standard Method Performance Requirements. Official Methods of Analysis (2016), AOAC INTERNATIONAL, Rockville, MD, USA (http://www.eoma.aoac.org/app_f.pdf)

Validation Procedures for Quantitative Gluten ELISA Methods: AOAC Allergen Community Guidance and Best Practices. Journal of AOAC International Vol. 96, N° 5, 2013. http://dx.doi.org/10.5740/jaoacint.13-043

Guidance on food allergen management for food manufactures (2013), Food and Drink Europe, Brussels, Belgium (http://www.fooddrinkeurope.eu/uploads/press-releases_documents/temp_file_FINAL_Allergen_A4_web1.pdf)

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