PRODUCTFOCUS

ROMER
Romer Labs®

The **AgraQuant® Plus Allergen Test kits** are sandwich enzyme immunoassays (ELISA) for the fast detection and quantitative determination of allergens in foods, environmental samples and rinse waters.

Your benefits:

- **P**rotect your business with reliable and accurate results
- **L**argest Allergen Portfolio to serve your diagnostic needs
- **U**nique extraction capsules optimize your workflow
- **S**ave time with fastest allergen ELISA on the market (with an extraction time of 1 min and assay performance of 30 min)

AgraQuant®

Allergens ELISA Tests

AgraQuant® Plus Allergen Test Kits available:

Kit	Order number
AgraQuant® Plus Almond	COKAL0748F
AgraQuant® Plus Casein	COKAL1248F
AgraQuant® Plus Cashew	COKAL3148F
AgraQuant® Plus Egg	COKAL1848F
AgraQuant® Plus Hazelnut	COKAL0348F
AgraQuant® Plus Macadamia nut	COKAL1648F
AgraQuant® Plus Mustard	COKAL2148F
AgraQuant® Plus Peanut	COKAL0148F

AgraQuant® Allergen Test Kits available:

Kit	Order number
AgraQuant® Almond	COKAL0748
AgraQuant® Casein	COKAL1200
AgraQuant® Cashew	COKAL3148
AgraQuant® Crustacea	COKAL2248
AgraQuant® Egg white	COKAL0848
AgraQuant® Fish	COKAL2548
AgraQuant® Gluten	COKAL0248
AgraQuant® Gluten G12*	COKAL0200
AgraQuant® Hazelnut	COKAL0348
AgraQuant® Lupin	COKAL1548
AgraQuant® Lysozym	COKAL2848
AgraQuant® Milk	COKAL2448
AgraQuant® Mustard	COKAL2148
AgraQuant® Ovalbumin	COKAL2948
AgraQuant® Peanut	COKAL0148
AgraQuant® Pistachio	COKAL2748
AgraQuant® Sesame	COKAL1948
AgraQuant® Soy	COKAL0448
AgraQuant® Walnut	COKAL0948
AgraQuant® β-Lactoglobulin	COKAL1048

Kit	Order number
AgraQuant® Allergen Swabbing kit (20 swabs)	COOLS0120

*AOAC Official Method of Analysis 2014.03 & AACC International Method 38-52.01

Sampling

Consideration must be taken that the food may contain an uneven distribution of allergens (spot contamination). It is important to test a representative portion of food as only a small amount of material is tested with the AgraQuant® Allergen test. So far there are no official regulations on sampling for food allergen testing. One reason for this is the different nature of samples for food allergens as they can vary from solid, dry powders to viscous and liquid form. A different approach is necessary for each type of sample matrix.

Swabbing

The AgraQuant® Allergen Swabbing Kit is an accessory kit used to collect environmental swab samples from surfaces on which allergenic proteins may be present.

Extraction

The extraction method and its efficiency - together with the high affinity of the antibody used in the assay – determines the performance of the assay and thus the limit of detection.

Assay Principles

The test is based on the high affinity antigen-antibody reaction and allows the detection of allergens in food, rinse waters and swab samples (environmental samples). Extracted samples or standards are transferred to wells in the microtiter plate that are coated with allergen specific antibodies. Allergen proteins in the extract or standard will bind to the pre-coated antibodies and build an antigen-antibody complex. In a washing step non-bound quantities are removed, so that allergen-specific-enzyme-coupled antibodies (conjugate) can bind to captured allergens in the next step. Excess conjugate is removed once more by washing. The addition of a colorless substrate starts off the color reaction. The final addition of stop solution causes another drift in color that is then measured at 450nm and that is proportional to the samples allergen content.

The fastest Allergen ELISA Method on the market

The new AgraQuant® Plus line combines the fastest extraction method with a rapid assay, resulting in the fastest time-to-result within only ***31 minutes***.

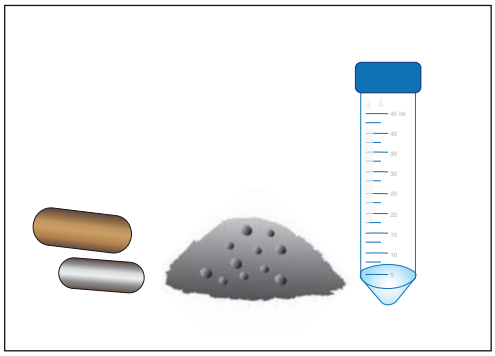
New extraction technology

With the new capsules technology you cut down extraction to a minimum of only ***1 minute***.

Therefore you just simply add both extraction capsules to the tube containing the sample and top it with hot (80-100°C) distilled water and shake it until sample and capsules are dissolved.

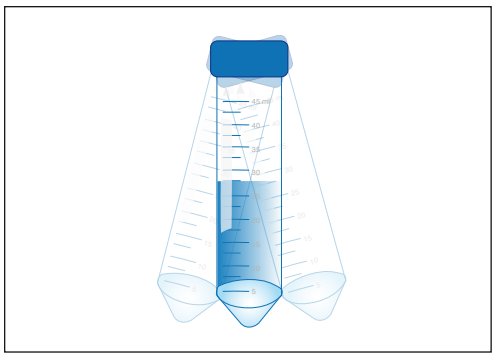
Furthermore you can use the same extract for testing different allergens of the AgraQuant® Plus line.

1min extraction procedure:

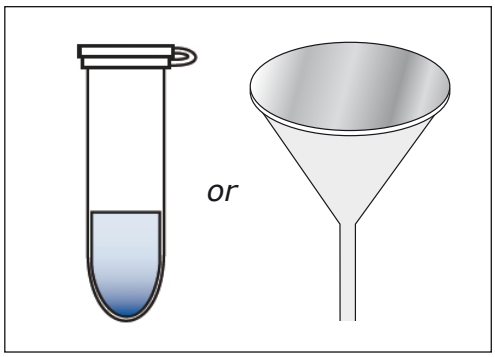


1. Weigh in 1 g sample and add together with extraction additive 1 & 2 to an empty centrifuge tube

2. Bring distilled water to 80-100°C and add 20 mL hot, but not boiling water to centrifuge tube



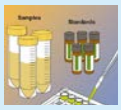
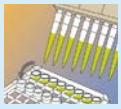
3. Shake tube vigorously for 15 seconds until sample and capsules are dissolved



4. Transfer an aliquote of the extract to a 1.5 or 2 mL reaction vial and centrifuge at 8000g for 5 min or alternatively filtrate through a pleated filter and use filtrate in the test

Improved Assay performance

Another advantage of the new AgraQuant® Plus line is the improved assay time of only 30 minutes.

1		Dispense **150 µL sample extract** or **standards** into transfer wells (blue)
2		Transfer **100 µL sample extract** or **standards** into the antibody coated wells (colourless) using a multichannel pipette **and incubate for 10min**
3		**Wash 5 times** with wash buffer
4		**Tap dry** washed wells
5		Pipette **100 µL conjugate** solution into the antibody coated wells **and incubate for 10min,** wash the wells afterwards as described in step 3 & 4
6		Pipette **100 µL substrate** solution into the wells **and incubate for 10min in the dark**
7		Add **100 µL stop solution** into the antibody coated wells
8		**Read** Results at 450 nm with an ELISA reader

Advantages performing AgraQuant® Plus Allergen tests

Protect your business and your brand - Avoid costly recalls with accurate and reliable results on the safety of your products

Largest Allergen Portfolio - Fast support and close customer relationship for all diagnostic needs

Unique extraction capsules optimize your workflow - Reduce individual errors through simple extraction procedure

Save time, efforts and money - Increase productivity in your lab through fastest Allergen ELISA method on the market and analysis of same sample extract for several allergens

All products of the AgraQuant® Plus Allergen kit range were developed in cooperation with ifp (www.produktqualitaet.com)

ifp Institut für Produktqualität

Validation data AgraQuant® Plus

	Plus Almond	Plus Casein	Plus Egg	Plus Cashew	Plus Mustard	Plus Hazelnut	Plus Macadamia nut	Plus Peanut
Limit of detection **Foodstuff** **Swab** **Rinse water**	0.5 ppm 0.05 µg/swab 50 µg//L	0.2 ppm 0.02 µg/swab 20 µg//L	0.5 ppm 0.05 µg/swab 50 µg//L	1 ppm 0.1 ug/swab 100ug/L	0.5 ppm 0.05 ug/swab 50 ug/L	1 ppm 0.1 µg/swab 100 µg//L	1 ppm 0.1 µg/swab 100 µg//L	0.5 ppm 0.05 µg/swab 50 µg//L
Quantification range	1 – 25 ppm	1 – 25 ppm	1 – 25 ppm	1 – 25 ppm	1 – 25 ppm	2 – 25 ppm	1 – 25 ppm	1 – 25 ppm
Units	Whole almond	Casein	Whole egg powder	total cashew	total mustard	Whole hazelnut	Whole macadamia	Whole peanut
Specificity	No cross-reactiv-ity with samples tested	No cross-reactivity with samples tested	No cross-reactivity with samples tested	Cross-reactivity to Pistachio	Cross-reactivity to rape seed	Cross-reactivity to pecan nut and Walnut	Slight cross-reactivity to grey poppy seed	No cross-reactivity with samples tested
Limit of detection in spiked com-modities	2 ppm	2 ppm	2 ppm	2 ppm	2 ppm	2 ppm	2 ppm	2 ppm

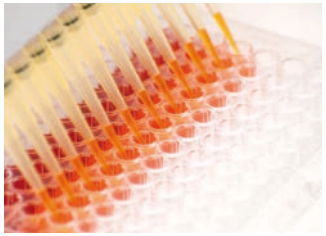
Validation data AgraQuant®

	Almond	β-Lactoglobulin	Casein	Cashew	Crustacea	Egg white	Fish	Gluten G12*	Gluten	Hazelnut
Limit of Detection	0.2 ppm	1.5 ppb	0.04 ppm	0.2 ppm	0.9 ppb	0.05 ppm	1.4 ppm	2 ppm	0.6 ppm	0.3 ppm
Quantification range	0.4 – 10 ppm	10 – 400 ppb	0.2 – 6 ppm	2 – 60 ppm	20 – 400 ppb	0.4 – 10 ppm	4 – 100 ppm	4 – 200 ppm	4 – 120 ppm	1 – 40 ppm
Units	Almond	β-Lactoglobulin	Casein	Cashew	Tropomyosin	Egg white protein	Cod	Gluten	Gluten	Hazelnut
Specificity	No cross-reactivity observed in tested matrices	No cross-reactivity observed in tested matrices	Slight cross-reactivity to Ewe's milk and Goat's milk	Slight cross reactivity to Pistachio	No cross-reactivity observed in tested matrices	No cross-reactivity observed in tested matrices	No cross-reactivity observed in tested matrices	Detects Wheat, Rye, Triticale and rye	Detects Wheat, Rye, Triticale and rye	No cross-reactivity observed in tested matrices
Limit of detection in spiked commodities	0.63 ppm	10 ppb	0.375 ppm	3.125 ppm	25 ppb	0.63 ppm	6.25 ppm	10 ppm	3.75 ppm	2.5 ppm
Extraction procedure	1 g in 20 mL Extraction Buffer at 60 °C		0.5 g in 10 mL Extraction Buffer at 60 °C	1 g in 20 mL Extraction Buffer at 60°C	1 g in 20 mL Extraction Buffer at 40 °C	1 g in 20 mL Extraction Buffer at 60 °C		0.25 g in 2.5 mL Extraction solution (50 °C, 40 min) + 7.5 mL 80 % EtOH	1 g in 10 mL 40 % EtOH	1 g in 20 mL Extraction Buffer at 60 °C
Extraction time	25 min							110 min	15 min	25 min
Sample dilution	no							1:10	1:50	no

*AOAC Official Method of Analysis 2014.03 & AACC International Method 38-52.01

Validation data AgraQuant®

	Lupin	Lysozyme	Milk	Mustard	Ovalbumin	Peanut	Pistachio	Sesame	Soy	Walnut
Limit of Detection	0.2 ppm	2 ppb	0.05 ppm	1 ppm	4 ppb	0.1 ppm	0.13 ppm	0.2 ppm	16 ppb	0.35 ppm
Quantification range	2 – 30 ppm	25 -250 ppb	0.4 – 10 ppm	2 – 60 ppm	25 – 500 ppb	1 – 40 ppm	1 – 40 ppm	2 – 30 ppm	40 – 1000 ppb	2 – 60 ppm
Units	Lupin	Lysozyme	Milk proteins	Mustard	Ovalbumin	Peanut	Pistachio	Sesame	Soy-Trypsin-Inhibitor	Walnut
Specificity	Slight cross-reactivity to Chickpea, Soy, Lentil and beef			Cross-reactivity to radish, cabbage, rape, brown mustard, black mustard		No cross-reactivity observed in tested matrices	No cross-reactivity observed in tested matrices	Slight cross reactivity to oats and bean	Slight cross-reactivity to Sesame	Slight cross-reactivity to Pecan nut
Limit of detection spiked commodities	1.9 ppm	15.625 ppb	0.5 ppm	3.75 ppm	25 ppb	2.5 ppm	2.5 ppm	3.75 ppm	63 ppb	3.75 ppm
Extraction procedure	1 g in 20 mL Extraction Buffer at 60 °C		0.5 g in 10 mL Extraction Buffer at 60 °C	1 g in 20 mL Extraction Buffer at 60 °C						
Extraction time	25 min									
Sample dilution	no		no - only 100 % meat and sausage sample 1:5	no						



Related Romer Labs Food Allergen Products

AgraStrip® Lateral flow devices

Kit	LOD	Item No.
AgraStrip® Almond	2 ppm Almond	COKAL0710AS
AgraStrip® β-Lactoglobulin	0.5 ppm BLG	COKAL1010AS
AgraStrip® Brazil nut	5 ppm Brazil nut	COKAL1710AS
AgraStrip® Casein	2 ppm Casein	COKAL1210AS
AgraStrip® Cashew/Pistachio	5 ppm Cashew/Pistachio	COKAL1310AS
AgraStrip® Coconut	10 ppm Coconut	COKAL2610AS
AgraStrip® Crustacea	10 ppm Crustacea (wet)	COKAL2210AS
AgraStrip® Egg	2 ppm dried whole egg	COKAL1810AS
AgraStrip® Gluten G12*	5 ppm Gluten	COKAL0200AS
AgraStrip® Gluten	4 ppm Gluten	COKAL0210AS
AgraStrip® Hazelnut	5 ppm Hazelnut	COKAL0310AS
AgraStrip® Lupin	10 ppm Lupin	COKAL1510AS
AgraStrip® Macadamia nut	2 ppm Macadamia nut	COKAL1610AS
AgraStrip® Milk	1 ppm milk protein	COKAL2410AS
AgraStrip® Mustard	2 ppm Mustard	COKAL2110AS
AgraStrip® Peanut	1 ppm Peanut	COKAL0110AS
AgraStrip® Sesame	5 ppm Sesmae	COKAL1910AS
AgraStrip® Soy	2 ppm Soy	COKAL0410AS
AgraStrip® Walnut	10 ppm Walnut	COKAL0910AS

EnzymeFast® Enzymatic food analysis

Kit	LOD	Item No.
EnzymeFast® Lactose/D-Galactose	For 5 g weighed sample: 0.004g/100g lactose 0.002g/100g D-galactose	COKEF0100
EnzymeFast® Lactose/D-Glucose	For 5 g weighed sample: 0.004g/100g lactose 0.002g/100g D-glucose	COKEF0700

* AOAC-RI approved

ProductFocus_AQ Plus_EN_0115_EHL

Imprint published by Romer Labs Division Holding GmbH, Technopark 1, 3430 Tulln, Austria, Tel: +43 2272 615 33, Fax: +43 2272 615 33 13177, e-Mail: marketing@romerlabs.com | Editors: Lukas Frank

IMPRINT