

AlerTox® Sticks

Rapid Allergen Detection



AlerTox® Sticks

Hygiena AlerTox® Sticks are a rapid immunochromatographic test for the qualitative detection of allergenic antigens in food, kitchens and production facilities. These user-friendly tests are for the detection and qualification of main food allergens without the need for lab equipment or scientific knowledge.

As well as being used for **environmental surface monitoring**, AlerTox® Sticks are a quick, reliable and practical tool for the control of allergen content in:

- **Raw product**
- **Liquid and solid end-product**
- **CIP rinse water**

Limit of detection (LOD) of AlerTox Sticks differs depending on the allergen you are testing for but range from 2.0ppm to 20.0ppm. Hygiena AlerTox are available for the following parameters:

- **Almond**
- **β-Lactoglobulin**
- **Casein**
- **Crustacean**
- **Egg**
- **Fish**
- **Hazelnut**
- **Mustard**
- **Soy**
- **Total Milk**

Industrial applications for Hygiena AlerTox include:

- **Trace allergen contamination in food, liquid, and surfaces**
- **Implementation and fulfilment of HACCP, ISO 2200, BRC, and IFS compliance**
- **Detection of allergens in food**
- **Food quality control**



AlerTox® Sticks

Rapid Almond Allergen Detection

Limit of detection: 20 ppm

Pack size: 10 tests



Intended use

AlerTox Sticks Almond is an immunochromatographic rapid test for the qualitative detection of almond antigen in food, kitchens and production facilities.

Introduction

Almond (*Prunus dulcis*) belongs to the *Rosaceae* family, which also includes apple, pear, peach, cherry, plum, nectarine, apricot, and strawberry, though almond allergy is traditionally considered as a tree nut allergy. Almond allergy can display a variety of symptoms, from mild oral allergy or hives to severe life-threatening systemic reactions, i.e. anaphylactic shock or bronchial asthma. Allergy to almond nuts is one of the rarest among tree nut allergies and most of the cases are reported in children.

Food Allergen Labeling and Consumer Protection Act (FALCPA) identified tree nut allergy as one of the major food allergies, and the presence of specific types of nuts should be labeled on the package. In the EU, tree nuts are included in the list of allergens established by the European Food Safety Authority, whose presence must be indicated in foods according to Regulation (EU) No. 1169/2011 Annex II.

Test sensitivity and specificity

AlerTox Sticks Almond uses a combination of monoclonal antibodies against a major almond antigen, the legumin-like 11S seed storage protein prunin/amandin, known as allergen Pru du 6. AlerTox Sticks Almond does NOT detect the antigens of cereals, legumes and other nuts, including walnut, pecan, peanut, hazelnut, cashew, macadamia, Brazil nut and coconut.

PLEASE NOTE: The test shows a considerable cross-reactivity in pit extracts of the fruits of *Prunus* and related genres: peach, plum and apricot. If these pits are crushed during industrial processing of fruit masses (for example, in the production of jam), the resulting material may show false positivity with AlerTox Sticks Almond.

The LOD (limit of detection) of AlerTox Sticks Almond is 20 ppm of almond protein. The range of detection (ROD) is 20-10,000 ppm. Above this range, the test can present a hook effect. The hook effect can appear as a negative result or as a test line with reduced intensity. If a false negative due to hook effect is suspected, repeat the test on a diluted sample.

The sensitivity of the test decreases in an environment rich in fats (for example, in the presence of oil or creams).

If you need to quantify the amount of antigen, please acquire AlerTox ELISA Almond (KIT3049/KT-5910).

Kit contents

- 10 immunochromatographic sticks individually packed in foil pouches
- 10 sample collection tubes (tube with yellow cap)
- 10 sample extraction buffer tubes, 10 mL (tube with blue cap)
- 10 spoons
- 10 pipettes (3 mL- only for testing liquid samples)
- 10 small pipettes
- 10 swabs (only for testing surfaces)
- Instructions for use

Other materials not supplied

- Grinder, mortar or any other manual or automatic homogenization system to crush the sample
- Scissors
- Optional: digital scale sensitive to 0.1 g

Precautions

- The test sticks must be stored at a temperature between 10 °C and 30 °C (50 °F and 86 °F).
- Use the test within 10 minutes after opening the foil pouch.
- Do not touch the white end of the stick.
- Do not use the test stick when its pouch is torn, or the stick is broken or damaged.
- All the components of the test kit are disposable; do not reuse them.
- Do not use the test sticks beyond the expiry date.

Sample handling

The samples must be brought to a temperature between 18 °C and 35 °C (64.4 °F and 95 °F) before use. The test is designed to detect the target antigen in:

- Solid food.
- Liquid samples: beverages, washwater from cutting equipment and surfaces used in food processing and storage.
- Surfaces.

Validation

AlerTox Sticks Almond has been validated for the following matrices:

- Spices
- Flours
- Snacks
- Bakery products
- Dairy
- Bread and biscuits
- Meat and fish
- Tinned Sardine

AlerTox® Sticks

Rapid B-Lactoglobulin Allergen Detection

Limit of detection: 2.5 ppm

Pack size: 5, 10 or 25 tests



Intended use

AlerTox Sticks Beta-Lactoglobulin is a rapid immunochromatographic test for the qualitative detection of beta-lactoglobulin (BLG) in food, kitchens and production facilities.

Introduction

Cow's (*Bos taurus*) milk and its derivatives (dairy products) are the basis of human nutrition. Milk from other related species – goat, sheep and buffalo – are common sources of milk for human consumption in some geographical areas.

Milk allergy can display a wide variety of symptoms, from mild oral allergy or hives to severe life-threatening systemic reactions, i.e. anaphylactic shock or bronchial asthma. True (IgE - or IgG - antibody mediated) allergy to milk proteins is clinically distinguishable from milk intolerance caused by lactase deficiency.

Allergy to milk proteins is one of the most frequent allergies especially in infants and children, affecting 0.5% - 5% of the population in different age and geographical groups.

The distribution of allergies associated with three major milk proteins (caseins, beta-lactoglobulin and alpha-lactalbumin) is almost equal among allergic patients, with slight predominance of caseins. Also, consumption and handling of milk is regulated by some religious confessions.

The Food Allergen Labeling and Consumer Protection Act (FALCPA) identified milk allergy as one of the major food allergies, and the presence of milk must be labeled on the package.

In the EU, milk is included in the list of allergens established by the European Food Safety Authority, and its presence must be indicated on the label according to Regulation (EU) No. 1169/2011 Annex II.

Test sensitivity and specificity

AlerTox Sticks Beta-Lactoglobulin is based on a lateral flow immunoassay and uses antibodies specific to BLG. This protein is a member of the lipocalin family and comprises approximately 10% of dry weight of defatted milk proteins. The test is able to detect BLG residues in a large variety of food matrices and also in environmental samples. The assay is specific for BLG and does not cross-react with nor recognizes other milk proteins such as casein. For the detection of casein please contact your supplier or acquire AlerTox Sticks Casein (KT-5772/KIT3022 or KT-5781/KIT3021).

Considering the dilution of the sample in the provided extraction solution, a sample should contain more than 2.5 ppm of BLG to obtain a positive result.

Samples that are very viscous, dense or with a high fat content can migrate incorrectly along the chromatography membrane, affecting the assay result (attenuation or disappearance of test and control lines).

AlerTox Sticks Beta-Lactoglobulin is a qualitative assay. If you need to quantify the amount of antigen, please contact your supplier or acquire AlerTox ELISA BLG (KT-5919/KIT3042).

Kit contents

Component	KT-5773 KIT3019	KT-5782 KIT3018
Sealed container containing β -lactoglobulin immunochromatographic sticks	1 (25 sticks)	1 (10 sticks)
Bottle containing 60 mL of extraction solution, ready to use	3	1
Small yellow pipettes 1 mL	25	10
Large transparent pipettes 3 mL	25	10
Empty tubes for extraction procedure	25	10
Microtiter 8-well strips	4	2
Microtiter tray	1	1
Swabs for surface sampling	25	10

Other materials not supplied

- Grinder, mortar or any other manual or automatic homogenization system to crush the sample.
- Vortex mixer/shaker (recommended, not required).
- Pipette or syringe to take 0.5 mL (only for liquid samples).
- Scissors (only for surface sampling).
- Digital scale to weigh 0.5 g (sensitive to 0.1 g).

Precautions

- All components should be stored at 2 - 25 °C (36 - 77 °F).
- All components should be stored inside their original package until the time of use.
- Do not touch the white end of the stick.
- Do not use the stick if it is broken or damaged.
- All the components of the test kit are disposable; do not reuse them.
- Do not use the test sticks beyond the expiration date.

Validation

AlerTox Sticks Beta-Lactoglobulin has been validated for the following matrices:

- Baby food
- Biscuits
- Cereals
- Soy drinks
- Dehydrated food
- Baked products
- Chocolate cookies
- Chocolate cereals
- Chocolate
- Meat products
- Non-alcoholic drinks
- Sauces
- Cereal products
- Snacks
- Additives

AlerTox® Sticks

Rapid Casein Allergen Detection

Limit of detection: 2.5 ppm

Pack size: 5, 10 or 25 tests



Intended use

AlerTox Sticks Casein is a rapid immunochromatographic test for the qualitative detection of casein in food, kitchens and production facilities.

Introduction

Cow's (*Bos taurus*) milk and its derivatives (dairy products) are the basis of human nutrition. Milk from other related species –goat, sheep and buffalo– are common sources of milk for human consumption in some geographical areas.

Milk allergy can display a wide variety of symptoms, from mild oral allergy or hives to severe life-threatening systemic reactions, i.e. anaphylactic shock or bronchial asthma. True (IgE - or IgG - antibody mediated) allergy to milk proteins is clinically distinguishable from milk intolerance caused by lactase deficiency.

Allergy to milk proteins is one of the most frequent allergies especially in infants and children, affecting 0.5% - 5% of the population in different age and geographical groups.

The distribution of allergies associated with three major milk proteins (caseins, beta-lactoglobulin and alpha-lactalbumin) is almost equal among allergic patients, with slight predominance of caseins. Also, consumption and handling of milk is regulated by some religious confessions.

The Food Allergen Labeling and Consumer Protection Act (FALCPA) identified milk allergy as one of the major food allergies, and the presence of milk must be labeled on the package.

In the EU, milk is included in the list of allergens established by the European Food Safety Authority, and its presence must be indicated on the label according to Regulation (EU) No. 1169/2011 Annex II.

Test sensitivity and specificity

AlerTox Sticks Casein is based on a lateral flow immunoassay and combines antibodies specific to casein. It is able to detect casein residues in a large variety of food matrices and also in environmental samples. It can detect casein from cow, sheep and goat milk. The assay is specific for casein and does not cross-react with other milk proteins such as beta-lactoglobulin. For the detection of beta-lactoglobulin please contact your supplier or acquire AlerTox Sticks BLG (KT-5773/KIT3019 or KT-5782/KIT3018).

Samples that are very viscous, dense or with a high fat content can migrate incorrectly along the chromatography membrane, affecting the assay result (attenuation or disappearance of test and control lines).

Considering the dilution of the sample in the provided extraction solution, a sample should contain more than 2.5 ppm of casein to obtain a positive result.

AlerTox Sticks Casein is a qualitative assay. If you need to quantify the amount of antigen, please contact your supplier or acquire AlerTox ELISA Casein (KT-5761/KIT3043).

Kit contents

Component	KT-5772 KIT3022	KT-5781 KIT3021
Sealed container containing casein immunochromatographic sticks	1 (25 sticks)	1 (10 sticks)
Bottle containing 60 mL of extraction solution, ready to use	3	1
Small yellow pipettes 1 mL	25	10
Large transparent pipettes 3 mL	25	10
Empty tubes for extraction procedure	25	10
Microtiter 8-well strips	4	2
Microtiter tray	1	1
Swabs for surface sampling	25	10

Other materials not supplied

- Grinder, mortar or any other manual or automatic homogenization system to crush the sample.
- Vortex mixer/shaker (recommended, not required).
- Pipette or syringe to take 0.5 mL (only for liquid samples).
- Scissors (only for surface sampling).
- Digital scale to weigh 0.5 g (sensitive to 0.1 g).

Precautions

- All components should be stored at 2 - 25 °C (36 - 77 °F).
- All components should be stored inside their original package until the time of use.
- Do not touch the white end of the stick.
- Do not use the stick if it is broken or damaged.
- All the components of the test kit are disposable; do not reuse them.
- Do not use the test sticks beyond the expiration date.

Validation

AlerTox Sticks Casein has been validated for the following matrices:

- Baby food
- Biscuits
- Cereals
- Soy drinks
- Dehydrated food
- Baked products
- Chocolate cereals
- Chocolate
- Meat products
- Non-alcoholic drinks
- Sauces
- Cereal products
- Snacks
- Additives
- Prepared food

AlerTox® Sticks

Rapid Crustacean Allergen Detection

Limit of detection: 10 ppm

Pack size: 10 tests



Intended use

AlerTox Sticks Crustacean is an immunochromatographic rapid test for qualitative detection of crustacean antigen in food, kitchens and production facilities.

Introduction

Crustaceans (*Crustacea*) comprise a taxonomical division (*subphylum*) of arthropods, which also includes insects and spiders. The crustaceans are very common in seas and fresh waters, though many species can also live on land.

Crustaceans are among the most commonly consumed seafood; in some countries crustaceans and related sea products form a significant part of everyday consumption. Crustacean allergy can display a variety of symptoms from mild oral allergy or hives to severe life-threatening systemic reactions, i.e. anaphylactic shock or bronchial asthma. Allergy to crustaceans ranks among top 10 food allergies in some geographical areas, though there is no estimation of overall global prevalence percentage. Consumption of crustaceans is prohibited by some religions.

Food Allergen Labeling and Consumer Protection Act (FALCPA) identified crustacean allergy as one of the major food allergies, and the presence of specific types of crustaceans should be labeled on the package. In the EU, crustaceans and their derivatives are included on the list of allergens established by the European Food Safety Authority, whose presence must be indicated on the label according to Regulation (EU) No. 1169/2011 Annex II.

Test sensitivity and specificity

AlerTox Sticks Crustacean uses a combination of monoclonal antibodies against a major antigen found in crustacean muscle, tropomyosin, known as allergen Met e 1 of *Metapenaeus ensis* (shrimp), Cra c 1 of *Crangon crangon* (North Sea shrimp), and similar proteins of other species. The test is non-reactive to fish, mollusks, and all sorts of meats.

The LOD (limit of detection) of AlerTox Sticks Crustacean is 10 ppm of dried raw shrimp protein. The range of detection (ROD) is 10-10,000 ppm; above this range, the test can present a hook effect. The hook effect can appear as a negative result or a test line with reduced intensity. If a false negative due to hook effect is suspected, repeat the test on a diluted sample. If you need to quantify the amount of antigen, please acquire AlerTox ELISA Crustacean (KIT3059/KT-5903).

NOTE!: AlerTox Sticks Crustacean is capable of detecting the antigens of phylum Arthropoda (insects, mites and spiders). Sensitivity to the cross-reactive antigens is substantially (100-1,000 times) lower than for shrimp and other crustaceans. However, AlerTox Sticks Crustacean can also be used for detection of cross contamination of foods (for example grains or flour) by insects.

Kit contents

- 10 immunochromatographic sticks individually packed in foil pouches
- 10 sample collection tubes (tube with yellow cap)
- 10 sample extraction buffer tubes, 10 mL (tube with blue cap)
- 10 spoons
- 10 pipettes (3 mL- only for testing liquid samples)
- 10 small pipettes
- 10 swabs (only for testing surfaces)
- Instructions for use

Other materials not supplied

- Grinder, mortar or any other manual or automatic homogenization system to crush the sample
- Scissors
- Optional: digital scale sensitive to 0.1 g

Precautions

- The test sticks must be stored at a temperature between 10 °C and 30 °C (50 °F and 86 °F).
- Use the test within 10 minutes after opening the foil pouch.
- Do not touch the white end of the stick.
- Do not use the test stick when its pouch is torn, or the stick is broken or damaged.
- All the components of the test kit are disposable; do not reuse them.
- Do not use the test sticks beyond the expiry date.

Sample handling

The samples must be brought to a temperature between 18 °C and 35 °C (64.4 °F and 95 °F) before use. The test is designed to detect the target antigen in:

- Solid food.
- Liquid samples: beverages, washwater from cutting equipment and surfaces used in food processing and storage.
- Surfaces.

Validation

AlerTox Sticks Crustacean has been validated for the following matrices:

- Snacks
- Dairy
- Meat
- Fish
- Flours
- Prepared food
- Tinned sardine

AlerTox® Sticks

Rapid Egg Allergen Detection

Limit of detection: 1.25 ppm

Pack size: 5, 10 or 25 tests



Intended use

AlerTox Sticks Egg is a rapid immunochromatographic test for the qualitative detection of ovalbumin in food, kitchens and production facilities.

Introduction

Egg protein is considered one of the major food allergens. Egg allergies often cause severe and even fatal immune reactions including anaphylaxis, acute bronchial asthma, severe atopic dermatitis and gastroenterocolitis. Eggs are widely used in food products such as ice cream, noodles, pasta, dressings and wine. Egg traces may remain on surfaces used for food processing. Furthermore, some vaccines may also contain trace amounts of egg proteins, posing a hazard when injected to allergic individuals. In 2004, the Food Allergen Labeling and Consumer Protection Act (FALCPA) required mandatory labeling of potential presence of egg allergen in foods.

Test sensitivity and specificity

AlerTox Sticks Egg is based on a lateral flow immunoassay and uses antibodies specific to ovalbumin. This test is able to detect ovalbumin residues in a large variety of food matrices and also in environmental samples.

Considering the dilution of the sample in the provided extraction solution, a sample should contain more than 1.25 ppm of ovalbumin to obtain a positive result.

Samples that are very viscous, dense or with a high fat content can migrate incorrectly along the chromatography membrane, affecting the assay result (attenuation or disappearance of test and control lines).

AlerTox Sticks Egg is designed to detect low concentrations of the analyte. When testing samples with a high content of the analyte, the test can present a hook effect, which can appear as a negative result or a test line with reduced intensity. If a false negative due to hook effect is suspected, repeat the test on a diluted sample.

AlerTox Sticks Egg is not capable of detecting ovalbumin in heat-treated matrices (i.e. over 100 °C / 212 °F for over 30 min).

AlerTox Sticks Egg is a qualitative assay. If you need to quantify the amount of antigen, please contact your supplier or acquire AlerTox ELISA Egg (KT-5904/KIT3046) or AlerTox ELISA Ovalbumin (KT-5759/KIT3045).

Kit contents

Component	KT-5898 KIT3026	KT-5899 KIT3025
Sealed container containing ovalbumin immunochromatographic sticks	1 (25 sticks)	1 (10 sticks)
Bottle containing 60 mL of extraction solution, ready to use	3	1
Small yellow pipettes 1 mL	25	10
Large transparent pipettes 3 mL	25	10
Empty tubes for extraction procedure	25	10
Microtiter 8-well strips	4	2
Microtiter tray	1	1
Swabs for surface sampling	25	10

Other materials not supplied

- Grinder, mortar or any other manual or automatic homogenization system to crush the sample.
- Vortex mixer/shaker (recommended, not required).
- Pipette or syringe to take 0.5 mL (only for liquid samples).
- Scissors (only for surface sampling).
- Digital scale to weigh 0.5 g (sensitive to 0.1 g).

Precautions

- All components should be stored at a temperature between 2 - 25 °C (36 - 77 °F).
- All components should be stored inside their original package until the time of use.
- Do not touch the white end of the stick.
- Do not use the stick if it is broken or damaged.
- All the components of the test kit are disposable; do not reuse them.
- Do not use the test sticks beyond the expiration date.

Validation

AlerTox Sticks Egg has been validated for the following matrices:

- Biscuits
- Cereals
- Soy drinks
- Dehydrated food
- Baked products
- Chocolate cookies
- Chocolate cereals
- Chocolate
- Alcoholic and non-alcoholic drinks
- Sauces
- Cereal products
- Snacks

AlerTox® Sticks

Rapid Fish Allergen Detection

Limit of detection: 5 ppm

Pack size: 10 tests



Intended use

AlerTox Sticks Fish is an immunochromatographic rapid test for qualitative detection of fish antigen in food, kitchens and production facilities.

Introduction

Fish proteins are among the major food allergens. Due to an increase in the use of seafood in the food industry, consumers with fish allergies are at growing risk of serious reactions or even death due to mislabeled or undeclared fish-derived products. Fish allergy can display a variety of symptoms from mild oral allergy or hives to severe life-threatening systemic reactions, i.e. anaphylactic shock or bronchial asthma. Since 2004, the Food Allergen Labeling and Consumer Protection Act (FALCPA) requires mandatory labeling of potential presence of this allergen in foods.

Test sensitivity and specificity

AlerTox Sticks Fish uses a combination of antibodies against tropomyosin, a major protein antigen found in striated muscle of bony fishes. The test also detects a related antigen of cartilaginous fishes (sharks and sturgeons), though with a significantly lower sensitivity.

The LOD (limit of detection) of AlerTox Sticks Fish is 5 ppm of dried raw cod (*Gadus morhua*) protein. In other fish species it may be detected only partially due to variability in the antigen content and level of homology with the cod antigen. Raw fish species that can be detected with the kit are: cod, scamp grouper, sea perch, pike, red grouper, seabass, mangrove snapper, pollock, zander, pangasius, carp, red snapper, turbot, anchovy and hake.

AlerTox Sticks Fish does NOT detect the antigens of other crustaceans such as shrimp, prawn, lobster and crab, shellfish (mollusks) and lamprey.

The range of detection (ROD) is 5-1,000 ppm. Above this range, the test can present a hook effect. The hook effect can appear as a negative result or a test line with reduced intensity. If a false negative due to hook effect is suspected, repeat the test on a diluted sample. If you need to quantify the amount of antigen, please acquire AlerTox ELISA Fish (KIT3060/KT-5920).

NOTE!: The sensitivity of the test is highly variable among species due to the variability of the homology to the cod antigen; the sensitivity also decreases with heated food (cooking), in fat-rich environments (e.g. in the presence of oil) and in canned foods or after the industrial processing of some species which have a peculiar structure of the muscular tissue (e.g. tuna or salmon).

Kit contents

- 10 immunochromatographic sticks individually packed in foil pouches
- 10 sample collection tubes (tube with yellow cap)
- 10 sample extraction buffer tubes, 10 mL (tube with blue cap)
- 10 spoons
- 10 pipettes (3 mL- only for testing liquid samples)
- 10 small pipettes
- 10 swabs (only for testing surfaces)
- Instructions for use

Other materials not supplied

- Grinder, mortar or any other manual or automatic homogenization system to crush the sample
- Scissors
- Optional: digital scale sensitive to 0.1 g

Precautions

- The test sticks must be stored at a temperature between 10 °C and 30 °C (50 °F and 86 °F).
- Use the test within 10 minutes after opening the foil pouch.
- Do not touch the white end of the stick.
- Do not use the test stick when its pouch is torn, or the stick is broken or damaged.
- All the components of the test kit are disposable; do not reuse them.
- Do not use the test sticks beyond the expiry date.

Sample handling

The samples must be brought to a temperature between 18 °C and 35 °C (64.4 °F and 95 °F) before use. The test is designed to detect the target antigen in:

- Solid food.
- Liquid samples: beverages, washwater from cutting equipment and surfaces used in food processing and storage.
- Surfaces.

Validation

AlerTox Sticks Fish has been validated for the following fish species:

- Cod
- Scamp Grouper
- Sea perch
- Pike
- Red Grouper
- Seabass
- Mangrove Snapper
- Pollock
- Zander
- Pangasius
- Carp
- Red Snapper
- Turbot
- Anchovy
- Hake

AlerTox Sticks Fish is not recommended for the following products:

- Canned tuna fish
- Tinned anchovy
- Tinned sardine

AlerTox® Sticks

Rapid Hazelnut Allergen Detection

Limit of detection: 20 ppm

Pack size: 10 tests



Intended use

AlerTox Sticks Hazelnut is an immunochromatographic rapid test for qualitative detection of hazelnut antigen in food, kitchens and production facilities.

Introduction

Hazelnut is the nut of hazel tree and includes any of the nuts deriving from species of the genus *Corylus*, especially the nuts of the species *Corylus avellana*.

Hazelnut allergy can display a variety of symptoms, from mild oral allergy or hives to severe life-threatening systemic reactions, i.e. anaphylactic shock or bronchial asthma. Allergy to hazelnut is a common tree nut allergy, most of the cases reported in children. Hazelnut presence in food is required by the Food Allergen Labeling and Consumer Protection Act (FALCPA) to be labeled on the package. In the EU, tree nuts are included into the list of allergens, established by the European Food Safety Authority, whose presence must be indicated in foods according to Regulation (EU) No. 1169/2011 Annex II.

Test sensitivity and specificity

AlerTox Sticks Hazelnut uses a combination of monoclonal antibodies against a major hazelnut antigen, the legumin-like 11S seed storage protein known as allergen Cor a 9).

AlerTox Sticks Hazelnut does NOT detect the antigens of cereals, legumes and other nuts, including walnut, pecan, peanut, almond, cashew nut, macadamia nut, Brazil nut and coconut.

The LOD (limit of detection) of AlerTox Sticks Hazelnut is 20 ppm of hazelnut protein. The range of detection (ROD) is 20-10,000 ppm. Above this range, the test can present a hook effect. The hook effect can appear as a negative result or a test line with reduced intensity. If a false negative due to hook effect is suspected, repeat the test on a diluted sample.

PLEASE NOTE: AlerTox Sticks Hazelnut does not detect hydrolyzed, low molecular weight fragments of the target protein and therefore it could show a false negative result with fermented hazelnut milk. The sensitivity of the test decreases in an environment rich in fats (for example, in the presence of oil or creams).

If you need to quantify the amount of antigen, please acquire AlerTox ELISA Hazelnut (KIT3050/KT-5907).

Kit contents

- 10 immunochromatographic sticks individually packed in foil pouches
- 10 sample collection tubes (tube with yellow cap)
- 10 sample extraction buffer tubes, 10 mL (tube with blue cap)
- 10 spoons
- 10 pipettes (3 mL- only for testing liquid samples)
- 10 small pipettes
- 10 swabs (only for testing surfaces)
- Instructions for use

Other materials not supplied

- Grinder, mortar or any other manual or automatic homogenization system to crush the sample
- Scissors
- Optional: digital scale sensitive to 0.1 g

Precautions

- The test sticks must be stored at a temperature between 10 °C and 30 °C (50 °F and 86 °F).
- Use the test within 10 minutes after opening the foil pouch.
- Do not touch the white end of the stick.
- Do not use the test stick when its pouch is torn, or the stick is broken or damaged.
- All the components of the test kit are disposable; do not reuse them.
- Do not use the test sticks beyond the expiry date.

Sample handling

The samples must be brought to a temperature between 18 °C and 35 °C (64.4 °F and 95 °F) before use. The test is designed to detect the target antigen in:

- Solid food.
- Liquid samples: beverages, washwater from cutting equipment and surfaces used in food processing and storage.
- Surfaces.

Validation

AlerTox Sticks Hazelnut has been validated for the following matrices:

- Snacks
- Dairy
- Flours
- Nuts
- Pasta
- Eggs
- Bakery products
- Sauces

AlerTox® Sticks

Rapid Mustard Seed Allergen Detection

Limit of detection: 2 ppm

Pack size: 10 tests



Intended use

AlerTox Sticks Mustard Seeds is an immunochromatographic rapid test for qualitative detection of mustard antigen in food and surfaces.

Introduction

Mustard is a condiment made from the seeds of the mustard plants (white or yellow mustard, *Sinapis alba*; brown or Indian mustard, *Brassica juncea*; or black mustard, *Brassica nigra*). Oriental mustard, also called Chinese mustard or Jie Cai/Gai Choy (or *Sisymbrium orientale*) is another member of the mustard family, as well as the wasabi plant (*Eutrema japonicum*).

Mustard allergy can display a variety of symptoms from mild oral allergy or hives to severe life-threatening systemic reactions, i.e. anaphylactic shock or bronchial asthma. Allergy to mustard is one of the major food allergies in some geographical areas, though there is no estimation of overall global prevalence percentage. Mustard and products thereof are listed in Annex II of Regulation (EU) No. 1169/2011 on labelling of foods.

Test sensitivity and specificity

AlerTox Sticks Mustard Seeds uses a unique combination of monoclonal antibodies against a major mustard seed antigen, the legumin-like 11S seed storage protein (cruciferin, CRU4), known as allergen Sin a 2. AlerTox Sticks Mustard Seeds detects the antigens of all mustard varieties, including wasabi. **AlerTox Sticks Mustard Seeds is highly cross-reactive with seeds of species of the cruciferous family (broccoli, Brussels sprouts, cabbage, cauliflower, horseradish, radish, rutabaga, turnip).** The test is non-reactive to the edible parts (leaves and roots) of other species of the cruciferous family as well as rapeseed/canola oil.

The LOD (limit of detection) of AlerTox Sticks Mustard is 2 ppm of raw, unprocessed mustard seeds protein.

PLEASE NOTE: The sensitivity of the test decreases with heating of the food (cooking) at temperatures exceeding 150 °C (302 °F) and in fat-rich environments (e.g. in presence of oil or cream), in matrices with a low pH (e.g. vinegar or citric acid), or when performing the test at temperatures below 18 °C (64.4 °F).

The range of detection (ROD) is 5-1,000 ppm. Above this range, the test can present a hook effect. The hook effect can appear as a negative result or a test line with reduced intensity. If a false negative due to hook effect is suspected, repeat the test on a diluted sample.

Kit contents

- 10 immunochromatographic sticks individually packed in foil pouches
- 10 sample collection tubes (tube with yellow cap)
- 10 sample extraction buffer tubes, 10 mL (tube with blue cap)
- 10 spoons
- 10 pipettes (3 mL- only for testing liquid samples)
- 10 small pipettes
- 10 swabs (only for testing surfaces)
- Instructions for use

Other materials not supplied

- Grinder, mortar or any other manual or automatic homogenization system to crush the sample
- Scissors
- Optional: digital scale sensitive to 0.1 g

Precautions

- The test sticks must be stored at a temperature between 10 °C and 30 °C (50 °F and 86 °F).
- Use the test within 10 minutes after opening the foil pouch.
- Do not touch the white end of the stick.
- Do not use the test stick when its pouch is torn, or the stick is broken or damaged.
- All the components of the test kit are disposable; do not reuse them.
- Do not use the test sticks beyond the expiry date.

Sample handling

The samples must be brought to a temperature between 18 °C and 35 °C (64.4 °F and 95 °F) before use. The test is designed to detect the target antigen in:

- Solid food.
- Liquid samples: beverages, washwater from cutting equipment and surfaces used in food processing and storage.
- Surfaces.

Validation

AlerTox Sticks Mustard Seeds has been validated for the following matrices:

- Mustard seeds (yellow mustard seed, brown mustard seed, black mustard seed and oriental mustard seed)
- Indian Spice mix
- Spice Mix for sausages (salt, vinegar, ground pepper, paprika, cayenne peppers, ground chili, cumin, brown mustard seeds)
- Flour (Mustard flour, yellow mustard flour, ground brown mustard, cracked yellow mustard seed, cracked brown mustard seed, mixed mustard bran, yellow mustard bran, brown mustard bran)
- The test has resulted positive but with a decrease in sensitivity in the following matrixes: pure oriental mustard and ground yellow mustard

AlerTox® Sticks

Rapid Soy Allergen Detection

Limit of detection: 10 ppm

Pack size: 10 tests



Intended use

AlerTox Sticks Soy is an immunochromatographic rapid test for qualitative detection of soybean antigen in food, kitchens and production facilities.

Introduction

Soy (*Glycine max*) is a legume of the *Fabaceae* (also known as *Leguminosae*) family, which includes bean, pea, chickpea, alfalfa and lupin.

Soy allergy can display a variety of symptoms, from a mild oral allergy or hives to severe life-threatening systemic reactions, i.e. anaphylactic shock or bronchial asthma. Soy is also one of the most frequent targets for genetic modifications and one of the cheapest protein sources in the food industry used for food adulteration. Allergy to soy has an estimated prevalence 0.1%-0.2% in different populations; most of the cases are reported in children.

The Food Allergen Labeling and Consumer Protection Act (FALCPA) identified soy allergy as one of the major food allergies and the presence of soy must be labeled on the package. In the EU, soy and its derivatives are included in the list of allergens established by the European Food Safety Authority, whose presence must be indicated on the label according to Regulation (EU) No. 1169/2011 Annex II.

Test sensitivity and specificity

AlerTox Sticks Soy uses a combination of monoclonal antibodies against the soy trypsin inhibitor (STI).

AlerTox Sticks Soy does NOT detect the antigens of related legumes including pea, white bean, chickpea, peanut, lentil and lupine, and is weakly reactive to alfalfa bean.

The LOD (limit of detection) of AlerTox Sticks Soy is 10 ppm of soy protein. The range of detection (ROD) is 10-5,000 ppm. Above this range, the test can present a hook effect. The hook effect can appear as a negative result or a test line with reduced intensity. If a false negative due to hook effect is suspected, repeat the test on a diluted sample. The sensitivity can decrease drastically in processed samples (textured soy etc.). If you need to quantify the amount of antigen, please acquire AlerTox ELISA Soy (KIT3047 or KT-5906).

NOTE!: AlerTox Sticks Soy is NOT capable of detecting the residues of soybean proteins in soy sauces prepared either by natural enzymatic degradation or by chemical treatment (acid hydrolysis). However, AlerTox Sticks Soy shows positive reaction in less hydrolized soy drinks. The sensitivity of the test decreases with heating of the food (cooking) and in fat-rich environment (e.g. in presence of oil or cream).

Kit contents

- 10 immunochromatographic sticks individually packed in foil pouches
- 10 sample collection tubes (tube with yellow cap)
- 10 sample extraction buffer tubes, 10 mL (tube with blue cap)
- 10 spoons
- 10 pipettes (3 mL- only for testing liquid samples)
- 10 small pipettes
- 10 swabs (only for testing surfaces)
- Instructions for use

Other materials not supplied

- Grinder, mortar or any other manual or automatic homogenization system to crush the sample
- Scissors
- Optional: digital scale sensitive to 0.1 g

Precautions

- The test sticks must be stored at a temperature between 10 °C and 30 °C (50 °F and 86 °F).
- Use the test within 10 minutes after opening the foil pouch.
- Do not touch the white end of the stick.

- Do not use the test stick when its pouch is torn, or the stick is broken or damaged.
- All the components of the test kit are disposable; do not reuse them.
- Do not use the test sticks beyond the expiry date.

Sample handling

The samples must be brought to a temperature between 18 °C and 35 °C (64.4 °F and 95 °F) before use. The test is designed to detect the target antigen in:

- Solid food.
- Liquid samples: beverages, washwater from cutting equipment and surfaces used in food processing and storage.
- Surfaces.

Validation

AlerTox Sticks Soy has been validated for the following matrices:

- Meat and sausages
- Fish
- Flours
- Cereals
- Beverages
- Baby formula and infant foods
- Soups and sauces
- Snacks
- Shakes and dairy
- Sports supplements
- Bakery products
- Chocolate bars

AlerTox® Sticks

Rapid Total Milk Allergen Detection

Limit of detection: 2.5 ppm

Pack size: 5, 10 or 25 tests



Intended use

AlerTox Sticks Total Milk is a rapid immunochromatographic test for the qualitative detection of milk proteins in food, kitchens and production facilities.

Introduction

Cow's (*Bos taurus*) milk and its derivatives (dairy products) are the basis of human nutrition. Milk from other related species –goat, sheep and buffalo– are common sources of milk for human consumption in some geographical areas.

Milk allergy can display a wide variety of symptoms, from mild oral allergy or hives to severe life-threatening systemic reactions, i.e. anaphylactic shock or bronchial asthma. True (IgE - or IgG - antibody mediated) allergy to milk proteins is clinically distinguishable from milk intolerance caused by lactase deficiency.

Allergy to milk proteins is one of the most frequent allergies especially in infants and children, affecting 0.5% - 5% of the population in different age and geographical groups.

The distribution of allergies associated with three major milk proteins (caseins, beta-lactoglobulin and alpha-lactalbumin) is almost equal among allergic patients, with slight predominance of caseins. Also, consumption and handling of milk is regulated by some religious confessions.

The Food Allergen Labeling and Consumer Protection Act (FALCPA) identified milk allergy as one of the major food allergies, and the presence of milk must be labeled on the package.

In the EU, milk is included in the list of allergens established by the European Food Safety Authority, and its presence must be indicated on the label according to Regulation (EU) No. 1169/2011 Annex II.

Test sensitivity and specificity

AlerTox Sticks Total Milk is based on a lateral flow immunoassay and combines antibodies specific to casein and beta-lactoglobulin. It is able to detect residues of these proteins in a large variety of food matrices and also in environmental samples. This assay is specific for casein and beta-lactoglobulin and does not cross-react with other milk proteins.

Considering the dilution of the sample in the provided extraction solution, a sample should contain more than 2.5 ppm of milk protein to produce a positive result.

Samples that are very viscous, dense or with a high fat content could migrate incorrectly along the membrane. Thus, the result can be affected (attenuation or disappearance of test and control lines).

AlerTox Sticks Total Milk is a qualitative assay. If you need to quantify the amount of antigen, please contact your supplier or acquire AlerTox ELISA Casein (KT-5761/KIT3043) or AlerTox ELISA BLG (KT-5919/KIT3042).

Kit contents

Component	KT-6496 KIT3016	KT-6495 KIT3015
Sealed container containing immunochromatographic sticks for milk proteins	1 (25 sticks)	1 (10 sticks)
Bottle containing 60 mL of extraction solution, ready to use	3	1
Small yellow pipettes 1 mL	25	10
Large transparent pipettes 3 mL	25	10
Empty tubes for extraction procedure	25	10
Microtiter 8-well strips	4	2
Microtiter tray	1	1
Swabs for surface sampling	25	10

Other materials not supplied

- Grinder, mortar or any other manual or automatic homogenization system to crush the sample.
- Vortex mixer/shaker (recommended, not required).
- Pipette or syringe to take 0.5 mL (only for liquid samples).
- Scissors (only for surface sampling).
- Digital scale to weigh 0.5 g (sensitive to 0.1 g).

Precautions

- All components should be stored at 2 - 25 °C (36 - 77 °F).
- All components should be stored inside their original package until the time of use.
- Do not touch the white end of the stick.
- Do not use the stick if it is broken or damaged.
- All the components of the test kit are disposable; do not reuse them.
- Do not use the test sticks beyond the expiration date.

Validation

AlerTox Sticks Total Milk has been validated for the following matrices:

- Baby food
- Biscuits
- Cereals
- Vegetal drinks
- Dehydrated food
- Baked products
- Chocolate cookies
- Chocolate cereals
- Chocolate
- Meat products
- Alcoholic and non-alcoholic drinks
- Sauces
- Cereal products
- Snacks