

AlerTox® Sticks

Fish

Immunochromatographic rapid test for qualitative detection of fish antigen in food, kitchens and production facilities.

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1. Intended use

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

2. 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.

3. 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).

4. 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

5. 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

6. 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.

7. 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.

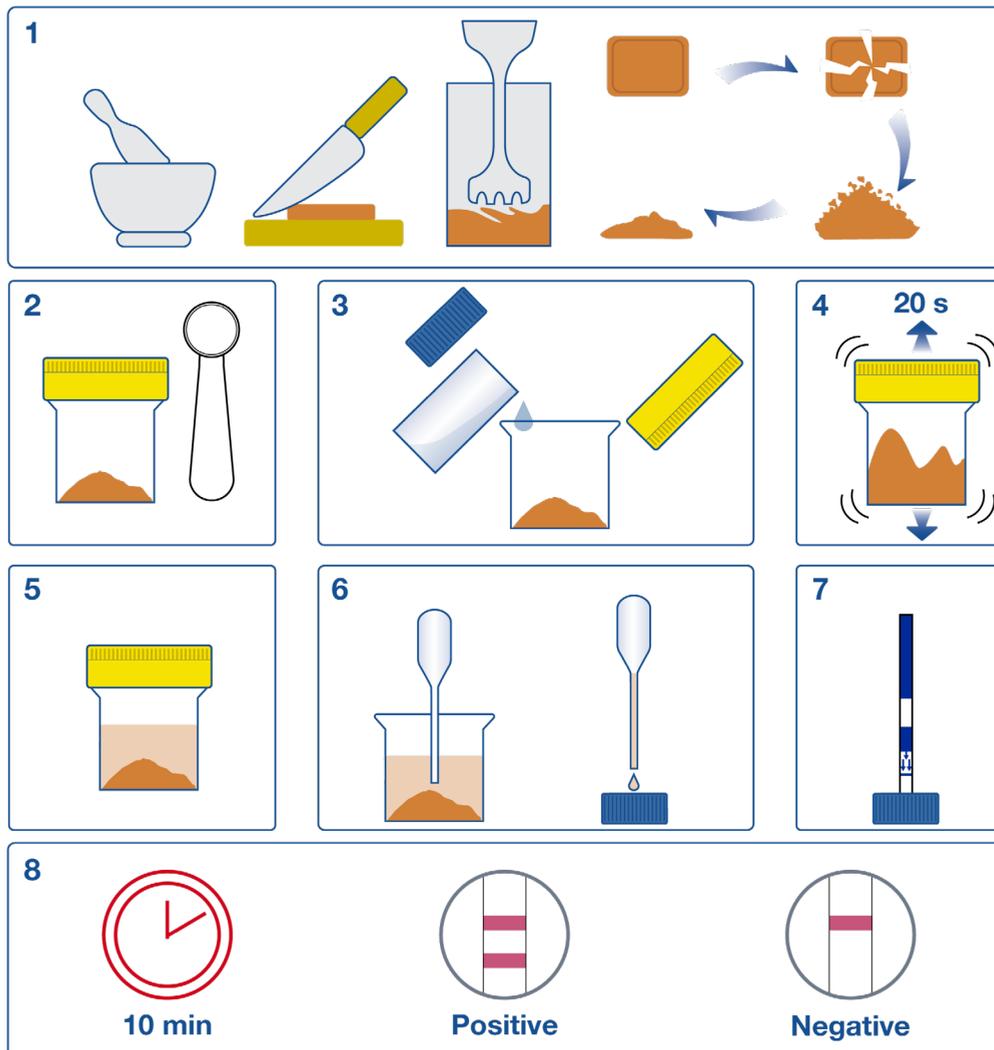
8. Test procedure for solid foods

- 8.1.** Before opening the foil pouch containing the test stick, please leave it at room temperature while you process the samples.
- 8.2.** Mash or crush the sample to obtain the finest crumbs possible. Use a mortar or a grinder if possible.
- 8.3.** Use a scale to weigh 1 g of the sample, or follow the chart below to add an equivalent amount of sample to a yellow-capped tube, using one of the single-use spoons provided.

Food type	Examples	Spoonfuls
Flours, fine powders	Corn flour, rice flour, milk powder, spices, etc.	
Fine crumbs	Bread, cookies, cakes, snacks, etc.	
Meat, fish and cured meat	Meat, fish, sausage, black pudding, pate, canned meat and fish, etc.	

- 8.4.** Pour the entire content of a blue-capped tube (10 mL) into the yellow-capped tube.
Keep the blue cap, as it will be used later on.
- 8.5.** Close the yellow-capped tube and shake it vigorously for at least 20 seconds. Let it rest for 2 minutes so the solids settle.
- 8.6.** With a small pipette, transfer supernatant to the blue cap until it is full.
- 8.7.** Open the envelope and pull out the stick carefully, by holding its BLUE end. Do **NOT** touch the white end of the stick.
- 8.8.** Place the white end of the stick in the blue cap and wait 10 minutes to read the result. Do not leave the stick longer than indicated, as the results may vary. Do not touch the stick while waiting.

Test procedure for solid foods



9. Test procedure for liquid samples

Liquid samples – beverages, washwaters from kitchen dishes, technological surfaces or cutting machines – may be tested directly. Turbid samples should be filtered (paper or textile filter) or allowed to settle.

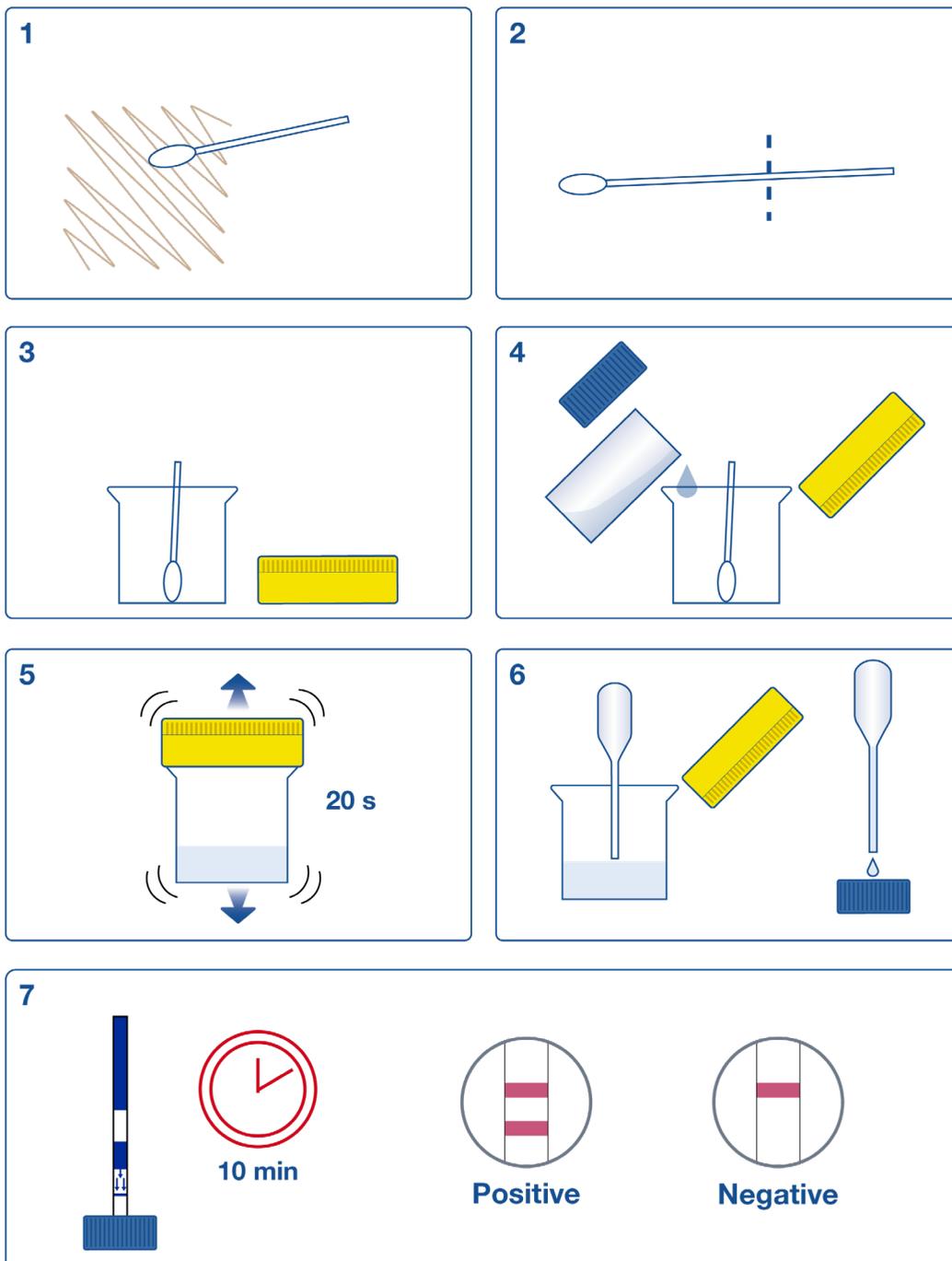
- 9.1. Before opening the foil pouch containing the test stick, please leave it at room temperature while you process the samples
- 9.2. Using a provided 3 mL pipette, add 3 mL of your liquid sample to a yellow-capped tube. If the sample is thick (e.g., yogurt, sauce, etc.), follow the chart below to add an equivalent amount of sample to the yellow-capped tube, using one of the single-use spoons provided.
- 9.3. Add an equal volume of sample extraction buffer (3 mL) using the same pipette, screw the yellow cap and mix by gently shaking the tube for at least 20 seconds. If the liquid is cloudy, let it settle.
Keep the blue cap, as it will be used later on.
- 9.4. With a small pipette, transfer supernatant to the blue cap until it is full.
- 9.5. Open the envelope and pull out the stick carefully by holding its BLUE end. Do **NOT** touch the white end of the stick.
- 9.6. Place the white end of the stick in the blue cap and wait 10 minutes to read the result. Do not leave the stick longer than indicated, as the results may vary. Do not touch the stick while waiting.

Food type	Examples	Spoonfuls
Liquid and sauces	Milk, juice, condensed milk, yogurt, soup, gravy, sauce, cream, etc.	

10. Test procedure for surface analysis

- 10.1. Firmly rub the swab on the surface that is going to be analyzed (at least 16 cm²/2.46 in², or a line of 40 cm/15.6 in. The area selected for analysis must be representative of the total area of interest.
- 10.2. Introduce the swab into the sample collection tube and, using scissors, trim the swab so that it will fit in the yellow-capped tube with the cap closed.
- 10.3. Pour the entire content of a blue-capped tube (10 mL) into the yellow-capped tube.
Keep the blue cap, as it will be used later on.
- 10.4. Vigorously shake the tube for at least 20 seconds.
- 10.5. With a small pipette, transfer supernatant to the blue cap until it is full.
- 10.6. Open the envelope and pull out the stick carefully by holding its BLUE end. Do **NOT** touch the white end of the stick.
- 10.7. Place the white end of the stick in the blue cap and wait 10 minutes to read the result. Do not leave the stick longer than indicated, as the results may vary. Do not touch the stick while waiting.

Test procedure for surface analysis



11. Interpretation of results

The result of the test is POSITIVE if TWO colored lines appear: One in the control zone (C) and one in the test zone (T).



The result of the test is NEGATIVE if only ONE colored line is clearly visible, in the control zone (C).



If NO colored line appears in the control zone (C), the test is INVALID.



In the case of an invalid test, repeat the test with another stick, check the correct specimen handling and test procedure, expiry date and storage conditions. Contact your distributor for further details.

IMPORTANT NOTE!

- **AlerTox Sticks is a qualitative test intended for the screening of samples for internal quality control. Under no circumstances can it replace the quantification test of the laboratory analysis.**

12. 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



Americas:

Hygiena Headquarters

941 Avenida Acaso
Camarillo, CA 93012
1-805-388-8007

Hygiena Canada

2650 Meadowvale Blvd Unit 14
Mississauga, Ontario L5N 6M5
1-833-494-4362 (Toll-free)
or 1-416-686-7962

Hygiena Mexico, S.A. de C.V.

Calle 3 Anegas 409 Bodega 5, Col. Nueva Industrial
Vallejo, Delegación Gustavo A. Madero, C.P. 07700,
CDMX, México.
+52 (55) 5281-4108 y 5281-4146

International:

Hygiena International

8, Woodshots Meadow
Watford, Hertfordshire
WD18 8YU, UK
+44 (0)1923-818821

Hygiena (Shanghai) Trading Co., Ltd.

Rm.7K, No.518, Shangcheng Rd.
Pudong New District
Shanghai, China 200120
+86 21-5132-1081, +86 21-5132-1077,
+86 21-5132-1078

Hygiena Diagnóstica España S.L.

P. I. Parque Plata, Calle Cañada Real 31-35,
41900, Camas, Sevilla, Spain
+34 954-08-1276

www.hygiena.com

enquiries@hygiena.com