Disp&FLOW® – Sesame

Rapid test for the detection of specific protein

N° cat.: BIO.068.3

Number of tests: 3

Rapid immuno-chromatographic test for the qualitative determination of sesame in food, cooking utensils and preparatory surfaces in food production or processing facilities.

The Disp&FLOW – Sesame test has been designed to detect the target antigen in two main types of specimens:

1. Solid food samples / solid food products / kitchen utensils / technical surfaces dedicated to the cutting or processing of foodstuffs.
2. Liquid samples of the following types: soups; beverages; rinsing water from food preparation tools, rinsing water from kitchen utensils, technical surfaces dedicated to cutting, processing and storing food products.

How it works

Allergy to sesame seeds and sesame-based products can manifest itself through a variety of symptoms, ranging from mild oral allergy or urticaria to serious life-threatening systemic reactions such as anaphylactic shock or bronchial asthma. The prevalence of sesame seed allergy is estimated at between 0.1 and 0.9% of the population and is more common in Asian countries. Sensitised organisms may cross-react with peanuts, walnuts, hazelnuts, rye and poppy seeds.

The test is applicable for qualitative detection or semi-quantitative measurement of target antigens in complex food samples and surface swabs. Qualitative detection is generally used for screening, while semi-quantitative measurement is applied for monitoring or comparative studies.

The Disp&FLOW – Sesame test is based on the principle of rapid immuno-chromatography (lateral flow migration). The target antigen present in the sample is absorbed by the strip and then recognized by specific antibodies conjugated to colored, free-moving microparticles. Once formed, this complex migrates along the strip to a highly focused area, where it encounters another specific antibody attached to the support. The accumulation of microparticles rapidly forms a colored line, indicating a positive result. The presence of a second control line ensures that the test works properly.

Test specificity and sensitivity

The Disp&FLOW - Sesame test uses a pair of monoclonal antibodies to detect all the main forms of the target antigen.
The sensitivities obtained by the Disp&FLOW - Sesame test are:

Sample	Form	Ratio*	LOD (ppm)
Ground raw seeds	Solid	1/10	10
	Liquid	1/2	2

** Sensitivity is calculated for a solid/liquid ratio of 1:10 by weight/volume. The sensitivity of the test can be improved by reducing the solid/liquid ratio, but this may result in a thick solution that does not penetrate the test strip.*

The maximum detectable concentration by the Disp&FLOW - Sesame test is 100,000 ppm.
In dry spots or other types of material collected by wet swabbing in accordance with this instruction, the LOD is approximately 19.4 µg/100 square centimetres of total sesame seed protein.

The sensitivity of the test decreases in a high-fat environment (e.g. in the presence of oil or cream). The Disp&FLOW - Sesame test does NOT detect antigens from cereals, legumes and nuts.

Detailed, up-to-date test performance data (sensitivity, specificity, variability, influence of matrix and processing) for the Disp&FLOW – Sesame test can be requested via our messaging service info@biotem.fr.

If the test result is a weakly colored line or is difficult to interpret, BIOTEM recommends retesting the sample with a different method, such as quantitative ELISA or PCR.

Kit contents

The Disp&FLOW – Sesame test contains the following components:

- 1 tube with desiccant cap containing 3 test strips.
- 3 sampling swabs (surface test).
- 3 tubes containing 2 ml extraction buffer for sample preparation and test migration.
- 3 transfer pipettes
- Instructions for use

Storage and stability

- The kit should be stored between +2 and +30°C in a dry environment, away from direct sunlight.
- **The strips must not be frozen and should be kept in their hermetically tube.**
- The kit must be used before the expiration date indicated on the packaging.

Equipment required but not supplied

- Sampling spatula, preferably single use.
- Pair of gloves
- Precision balance or digital dosing spoon (optional, reference BIO.044.1)

Precautions

- Kit components are for *in vitro* use only.
- The kit may be used up to its expiration date if stored under the recommended conditions.
- Do not use the test beyond its expiration date.
- The tube containing test strips should be stored between +2 and +30°C.
- All handling associated with the use of this test must be carried out in strict compliance with the conditions for non-contamination of samples; in particular, gloves must be worn during handling.
- Strips should be handled by their upper colored part. Do not directly touch the central part of the strip or its absorbent end.
- **The strips must be kept in the hermetically sealed tube** (strips are highly sensitive to moisture) - do not use a strip more than 10 minutes after opening the tube.
- **Close the tube immediately after removing the required number of strips.**
- **Do not use the test if the strip tube has been found open.**
- Use only the tube containing the extraction buffer supplied in the kit. Never use components from different kits.
- **Do not immerse the strip deeper than the line under the arrows.**
- The Disp&FLOW – Sesame test contains only single-use components; do not use again.

Waste disposal

- Dispose of all used consumables in accordance with biomedical waste regulations.
- Each user is responsible for managing the waste they produce, and for ensuring that it is disposed of in accordance with applicable regulations.

Sample preparation

Prior to testing, samples and test strips should be brought to a temperature between +18°C and +35°C; analysis of colder samples reduces test sensitivity; analysis of warmer samples is not possible due to the risk of degradation of the antibodies present in the strip.
Ensure that the material to be tested is a mixture of all the ingredients making up the final solid food product.

For testing solid materials:
Weigh out 0.2 g of solid material and insert it into the sample tube containing 2 mL of extraction buffer. The minimum acceptable weight is 0.2 g. Note: use only disposable materials and replace them each time a new sample is taken or prepared. If the weight is different (weight/volume ratio different from 1/10), adjust the sensitivity of the test.
Example: the weight is 0.6 g, i.e. a ratio of 3/10; the sensitivity is then 30 ppm.

1. Vigorously shake the tube manually or with a vortex at maximum speed for 15-30 seconds.
2. Place the tube upright on a stand and allow the contents to settle or centrifuge at low speed in a centrifuge, the supernatant is then ready for testing.

For utensils and other surface tests:

1. Take the provided swab and rinse it in the tube containing the extraction buffer. Wipe off any excess liquid against the wall of the tube, then wipe over the surface of the object to be analysed in a criss-cross motion, first in one direction, then in the other, then diagonally. Then insert the swab into the sample tube containing the buffer and shake for 15-30 seconds. Hermetically seal the tube with the stopper.
2. Vigorously shake the tube manually or using a vortex at maximum speed for 15-30 seconds.
3. Place the tube vertically on a stand and allow the contents to sediment, or centrifuge at low speed. The supernatant is then ready for testing.

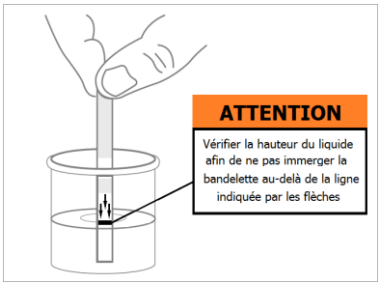
Liquid samples can be tested directly.

1. Using the transfer pipette supplied, insert the liquid sample (2 mL, i.e. 2x the volume of the pipette) into the test tube containing the dilution/extraction buffer. Check the correct volume on the tube scale.
2. Hermetically seal the test tube with the stopper.
3. Vigorously shake the test tube manually or by vortexing at maximum speed for 20-30 seconds.
4. Place the tube upright on a stand and allow the tube contents to settle, or centrifuge at low speed in a centrifuge, leaving the supernatant ready for testing.

Note: The test detection limit for liquid samples depends on their viscosity and turbidity (presence of particles). If the sample is viscous and cannot reach the test zone, it must be diluted in the dilution/extraction buffer. In this case, the sensitivity of the test must be adjusted by the dilution factor.
Cloudy specimens should be filtered through a textile or paper filter.

Test procedure

1. Bring samples to a temperature between +18 and +35°C.
2. Open the tube containing the test strip, taking care not to cut the strip.
3. Dip the other end of the strip vertically into the supernatant in the test tube.
4. Caution: make sure the strip is not immersed too deeply - see picture opposite ➔



5. Leave the strip to soak for **20-30 seconds**, then place it on a CLEAN, horizontal surface; do not touch or move the strip for 10 minutes, while the sample migrates.
6. Read the result and interpret it according to the picture and instructions below.

Interpretation of results

The test is positive if 2 red lines appear clearly in the central area of the strip (test line and control line, see below). Disregard the order of appearance of the 2 lines and any nuances in color intensity.

The test is negative if a single red line appears (see below): this is the control line which guarantees that the test is working correctly.

If only the test line appears (see below), the test cannot be interpreted, and no result is validated.

If no line appears (see below), the test cannot be interpreted, and no result is validated.

In the latter two cases, before starting again with another Disp&FLOW – Sesame test, make sure that all the test preparation, storage and application instructions have been followed, as well as the expiration date.

BIOTEM
Parc d'activités Bièvre Dauphine
885, rue Alphonse Gourju
38140 Apprieu
France

tél +33 (0)4 76 65 10 91
fax +33 (0)4 76 67 48 86
info@biotem.fr
www.biotem.fr

BIOTEM
Custom antibodies & services