

Raw Meat FlowThrough™ Test



For onsite detection of raw meat adulteration

Bio-Check (UK)

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SPECIATION

Qualitative onsite test

1% detection limit

Sample: 0.5g

Sample prep: grind

Extraction: 2 min.

RMFT test: 10 min.

Total Test time: 12 min.

Optional Items:

- Homogeniser/blender
- Weighing balance

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Raw Meat FlowThrough™ Test

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These instructions (IFU) are applicable to the following test kits

Catalogue Numbers

Tests per pack (#)	Cow (Red)	Horse (Orange)	Pig (Yellow)	Sheep (Green)	Poultry (Blue)
5	R6056	R6051	R6053	R6060	R6058

(#) Each species specific pack is colour coded

Amendments (Please check final section of IFU first): A2069 Rev 02: Update of product range.



Please read IFU carefully before proceeding

Use the product within its expiry date & open only when ready to start

All components are non-toxic and safe to use as directed

Store kits between 2°C/36°F to 8°C/46°F and use between 15°C/59°F to 25°C/77°F

Intended Use

The Raw Meat FlowThrough™ Test (RMFT) range has been validated for the detection of adventitious contamination/adulteration of raw (uncooked) meat products at about the 1% level. The tests are simple and quick to perform and for ground/minced meats require no additional equipment. Their reliable results provide evidence for effective decision making.

Detection Limit

These qualitative tests utilise highly purified antibodies to detect species-specific animal serum protein (albumin), which is found at high levels in raw meat (e.g. mince), meat products (e.g. burgers) and blood drip. The detection limit (LOD) of the test is somewhat dependent on sample type/quality and extraction efficiency. The 1% LOD in ground raw meats was verified against Laboratory of the Government Chemist (LGC) Reference Materials.

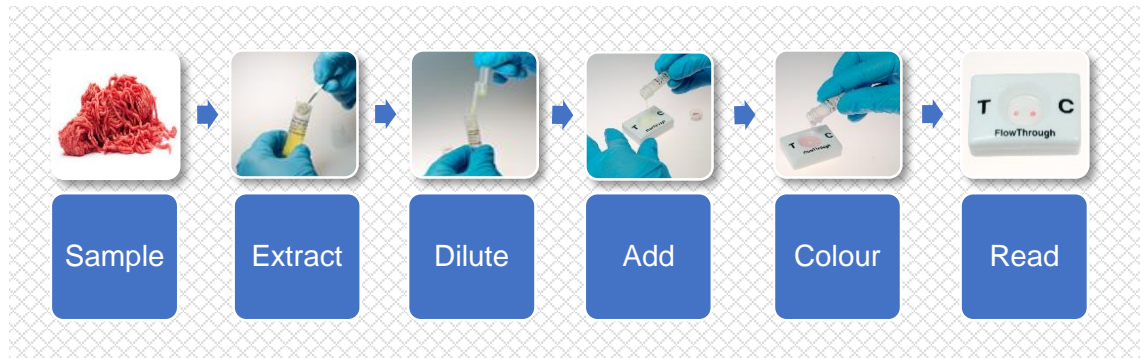
Components for a Single Test

	Quantity
Push-cap tube with yellow Extraction Solution	1
Sample scoop, 0.5cc	1
Separation disc	1
Self-measuring pipette	1
Screw-cap tube containing Diluent Liquid	1
RMFT unit in foil pouch with desiccant	1
Cotton bud	1
Pink Colour Reagent in coloured cap tube	1



Overview of the Test

The Raw Meat FlowThrough™ Test six part procedure typically takes 12 minutes to perform (includes 2 min. for extraction). Species-specific proteins are extracted from a homogenous sample (e.g. finely ground raw meat) with the yellow solution. The extract is then diluted and added to the test unit so that the proteins bind to a Test spot (T) on the left hand side of the test area. Binding of these proteins is indicated after the addition of a Colour Reagent, which forms a pink spot at 'T'. A pink Control (C) spot will also appear on the right hand side of the test area to indicate the test has worked properly.



Validation

A Customer Validation Report, which includes details of all sample matrices validated in-house, is available on request. The tests have been validated using LGC Raw Meat Reference Materials, a panel of shop bought meats and over 50 potentially cross-reacting food ingredients and been compared to a confirmatory raw meat laboratory ELISA method.

Precautions

1. For testing raw (uncooked) meat and raw meat products only
2. Test components should only be used within their specified expiry date
3. Do not use test components from different kit batches
4. Do not open the foil pouch until just before use
5. Only use the RMFT unit if the desiccant in the foil pouch is coloured yellow/pale green
6. Store the kit between 2°C/36°F to 8°C/46°F and use between 15°C/59°F to 25°C/77°F

Warranty

Bio-Check (UK) warrants the product supplied ("the Product") against defects in materials and workmanship when used in accordance with the applicable instructions for a period of one year from the date of shipment of the product or if shorter, for a period not to extend beyond a product's printed expiration date. If the customer establishes that the Product does not conform to this limited warranty, Bio-Check shall, at its option, replace such of the Products with similar Products or allow the Customer credit for their invoice value but Bio-Check will have no further liability to the Customer. Bio-Check makes no other warranties expressed or implied, including but not limited to any implied warranties or merchantability or fitness for a particular purpose. Bio-Check does not warrant against damages or defects arising in shipping or handling, or out of accident or improper or abnormal use of the Product. Bio-Check shall not be liable for any damages (including special or consequential damages) or expenses arising directly or indirectly from the use of its Product.

Raw Meat FlowThrough™ Test Procedure

For on-site detection of raw meat adulteration



A robust, well designed sampling plan will increase the chance of detection
Ensure the sample is homogenous by grinding/mincing first
It is important to test a representative portion as only small amounts are extracted

Sample

Ground/minced/pasted meats: Require no further preparation

Un-prepared meat samples: Finely chop/grind/mince to a smooth, homogenous paste.

Level fill the sample scoop with a portion of the sample (or weigh 0.50g +/- 0.05g)

Extract



1 min



If performing more than one test, label Extraction and Diluent tubes with your sample reference



1. Add sample

- EITHER break filled scoop (sample facing upwards - see above) by slowly applying downward pressure on the handle. Re-cap the tube.
- OR add weighed amount of sample (0.50g +/- 0.05g) into the tube and re-cap.

2. Extract

- Retain scoop handle for next step.
- Shake Extraction tube vigorously for 1 minute.

3. Separate liquid

- Remove cap from yellow extraction solution tube.
- Place separation disc into tube so disc is level & flush with inside walls.
- Carefully push disc down into extract using scoop handle to separate liquid from meat paste.

Dilute

1 min

- i** If performing more than one test, use the appropriate (sample labelled) Diluent tube
Desiccant sachet in foil pouch should be yellow/pale green in colour



4. Pipette

- Tightly squeeze the upper bulb of a clean self-measuring pipette.
- Insert pipette tip into the liquid sample extract above the disc & slowly release pressure on bulb until the solution overfills the pipette tube into the lower bulb.



5. Dilute

- Remove cap from appropriately labelled Diluent liquid tube.
- Insert pipette tip into tube
- Squeeze the upper bulb to add the extract to the Diluent tube.
- Recap Diluent tube and gently invert several times to mix.



6. Open pouch

- Remove RMFT unit from pouch.
- Label RMFT unit if more than one test is to be performed.

Add Diluted Extract

5 min



7. Add to unit

- Remove cap from Diluent tube containing extract.
- Carefully add the diluted extract to the well of the RMFT unit.



8. Allow to absorb

- Wait for about 5 minutes until diluted extract is completely absorbed in to the RMFT unit - see note on next page.



9. Clean

- Use both ends of a clean cotton bud to gently remove any particulates and liquid on the test area surface and around the rim of the RMFT unit well.

i Viscous extracts may take longer to absorb; if not absorbed after 10 minutes, blot remaining liquid with a clean cotton bud or tissue before cleaning the test area - see above

Add Colour Reagent

5 min

i Invert the pink Colour Reagent tube(s) several times to mix well before use
Record any clearly visible pink spot on the RMFT unit as a test response

10. Add Colour Reagent

- Remove cap from pink Colour Reagent tube.
- Carefully add contents to the well of the RMFT unit.

11. Allow to absorb

- Wait about 5 minutes until the pink Colour Reagent is completely absorbed into the well of the RMFT unit.

12. Read

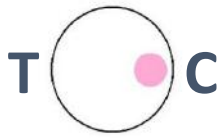
- Read the test response within one hour using the guidance notes below.

Read

Total time: 12 min

Read the test result **in good light** and at your normal reading distance within an hour of finishing the test. The appearance of a **clearly visible, pink Test spot (regardless of intensity)** on the left of the test area (**T**) indicates the presence of the meat species under test.

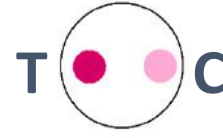
The darker the test spot the more meat is present in the sample being tested:



NEGATIVE RESULT



POSITIVE RESULT



STRONG POSITIVE

A pink Control spot of medium intensity should always appear on the right hand (**C**) side of the test area; this indicates that the extract is suitable, the test has been performed correctly and all reagents are functional. If a Control spot does not appear, the result is INVALID and must be repeated. The spots are stable for 1-2 hours after completing the test but may discolour as the unit dries out.

Confirmation

The sample extract obtained at the end of step 3 can be retained (store refrigerated at 2°C/36°F to 8°C/46°F for up to 2 days or frozen for up to 3 months) for testing by ELISA if required. If necessary, spin the white disc by pressing one edge and remove it so that more liquid extract can be accessed. Samples can be sent to Bio-Check (UK) for analysis or to your chosen laboratory.

Document changes

The most recent changes to these instructions for use (IFU) are recorded below. Please check this section to ensure you are familiar with the latest recommendations. Bio-Check welcomes suggestions to improve the IFU content and the products it describes.

Record of changes

Rev 01: Sept-2013; New products.
Rev 02: Sept-2015; Update of product range available.

Providing expert evidence through food testing

Improve your validation and verification with Bio-Check (UK)

Bio-Check strongly believes in the importance of evidence based Food Safety and Quality systems. It develops and offers novel food testing kits, specialist analytical services, consultancy and training to serve an increasing global need. Bio-Check's main activities focus on the detection of additives and contaminants in food and feed-related samples. The company recognises that this need is driven by major changes in regulatory frameworks where compliance is not enough; evidence is needed that systems are under control. Bio-Check is thoughtfully combining advances in biotechnology with an evidence based approach in ways that it believes will contribute to tackling the challenges of delivering safer food.

Contact us

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