



BioKits Gluten Assay Kit

A quantitative method for the detection of wheat gluten in foods

Intended Use: The GLUTEN ASSAY KIT is intended to be used for the detection of wheat gluten at levels of 16 parts per million (ppm) or above (>8 ppm gliadin) in a wide range of uncooked and cooked foods.

A higher limit of detection screening protocol, designed to detect gluten at levels of >160ppm (>80ppm gliadin), is included for customers who wish to test for higher levels of contamination. This method has been tested in an AOAC approved collaborative trial and has been granted "AOAC Final Action" status.

The use of wheat flour and gluten in foodstuffs is extremely common because of their heat stability and useful effects on e.g. texture, moisture retention and flavour. Testing for the presence of Gluten in foods is important due to the fact that, in a sizeable proportion of the population (perhaps as many as 1 in 300), gluten causes an unpleasant condition known as *Coeliac Disease*. As the only remedy for this ailment is avoidance of gluten-containing foods, manufacturers need to monitor its presence so that food products may be labelled accordingly. For those with laboratory facilities, the **Gluten Assay Kit** provides a definitive, quantitative approach. For "on site" testing the **Gluten Rapid Test** provides rapid, qualitative testing in minutes.

Suitable for testing: for wheat gluten in a wide range of uncooked/cooked/processed foods/raw materials.

The **BioKits** Gluten Assay Kit offers

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| • High sensitivity | Able to detect trace amounts (>16ppm) |
| • Rapid screen | Detects higher levels (>160ppm) |
| • BioKits Validated method | Reliable results aid analytical decisions |
| • Ease of use | Less effort & training required |
| • Versatility | Applicable for many raw/cooked foods |
| • Flexibility | Cost effective for small numbers of tests |

Principle of the Assay: The kit utilises antibodies to omega gliadin, coated onto micro-wells, in a direct, sandwich assay (ELISA) format. Gliadin from a sample extract binds to antibody sites on the microwell. The presence of gluten is then determined using anti-gliadin peroxidase (HRP) antibody and TMB substrate. The **BioKits Gluten Assay** is a sensitive and specific test for gliadin/wheat gluten in the presence of other animal and vegetable proteins.

Methodology: Food samples are extracted using a 40% ethanol extraction solution and diluted. The diluted extract is added to microwells coated with anti-gliadin antibody and incubated at room temperature, followed by successive additions with anti-gliadin-HRP, TMB and acid stop solution. The ELISA results in the development of a blue colouration (which turns yellow when "stopped"), the intensity of which is proportional to the amount of gluten present in the sample. Comparison of the level of colour development obtained from the diluted extract, to that of a set of gliadin standards, allows the gluten level in the original sample to be calculated.

High Sensitivity Incubations: 60 + 30 + 30 minutes **Rapid Screening** Incubations: 10 + 10 + 10 minutes



Cert No: 1 RO 4000459

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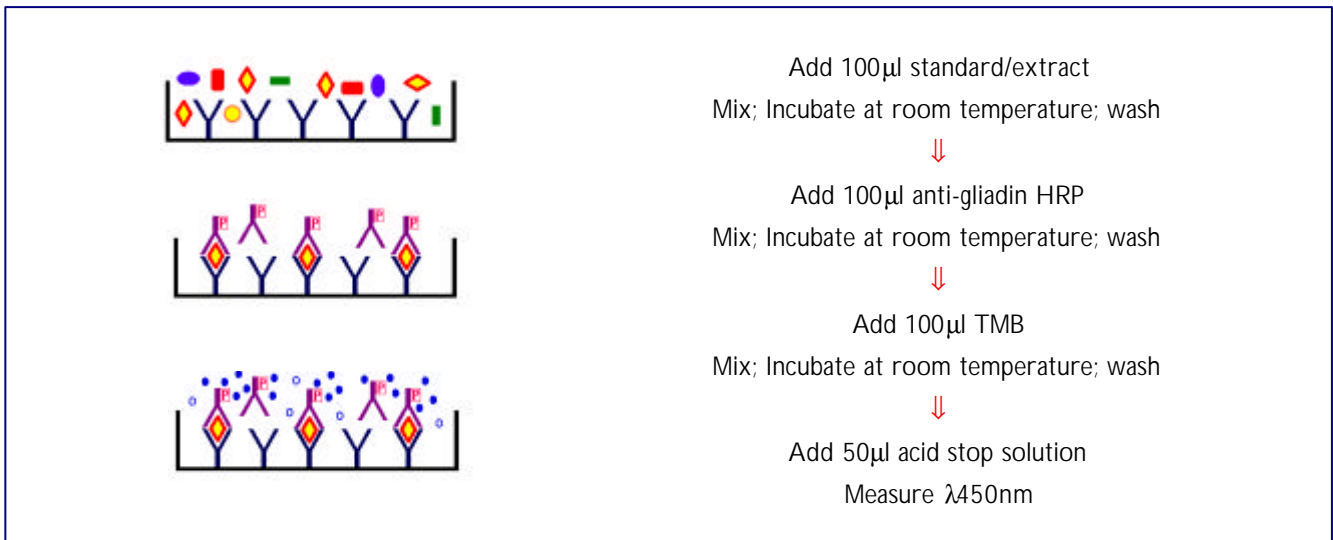
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Assay Schematic:



Developed at the Wheat Research Unit, C.S.I.R.O. Australia; manufactured under license from Analytica Pty.Ltd.

Product Details:

Limits of Quantitation: High Sensitivity >16 ppm; Rapid screening >160p.p.m
 Limit of Detection: High Sensitivity >2ppm
 Cross reactivity: Proteins from Durum Wheat (40 - 60%); Triticale and Rye (110 - 130%); Barley (4 - 8%); Oat, Maize, Rice and Millet are undetected.
 Samples tested per kit: Up to 38 samples in duplicate
 Hands-on time: One hour (for preparation/extraction - five samples)
 30 minutes (for immunoassay – five samples)
 Kit Contents: 96 micro-well plate system with single strip format of 8 wells.
 Freeze dried Gliadin standard; anti-gliadin-HRP
 Additional equipment: Micro-pipettes (50-100µl), wash bottle, plate shaker & reader (450nm)
 Reagent stability: Several weeks or months after opening
 Shelf-life: Up to 12 months from manufacture
 Storage: 2°C to 8°C

Ordering Information: *BioKits* Gluten Assay Kit **Cat. No. 802002Y**

Other allergen-related products: Gluten Rapid Test, Milk Proteins (Casein, BLG, BSA)
 Peanut protein; Soya protein; Sesame

Products in the *BioKits* range are suitable for laboratory or on-site testing. Two formats based on Immunoassay and DNA technology are available. Product applications include detection of: Food Allergens, Genetically Modified Ingredients, Animal Speciation and Mycotoxins

LA 0058 *BioKits* Gluten Assay Flyer 03



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