



**Bio-Check (UK)**

## ALMOND-CHECK ELISA

A quantitative **ALMOND ELISA Kit** to assist in the determination of low levels of **ALMOND** content in raw materials, environmental swabs, uncooked/cooked foods etc.

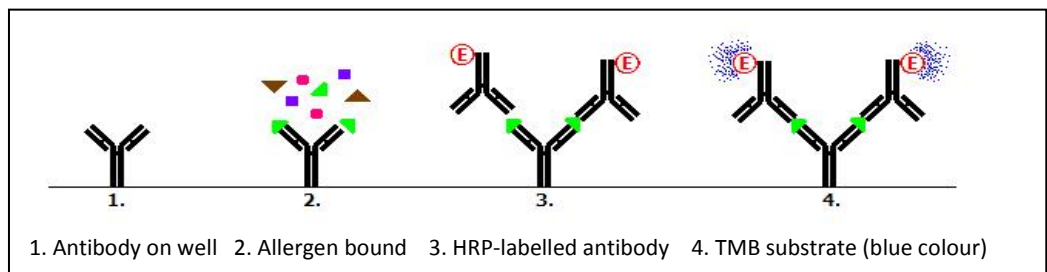
**ALMOND ALLERGENS in FOOD:** Almond (*Prunus dulcis*) is a relatively common food ingredient particularly in baked goods, confectionery and ethnic foods. The main allergens are: Amandin; 2S Albumin; Conglutin gamma (Ref: <http://foodallergens.ifr.ac.uk/>).

A number of food allergic individuals can suffer mild to severe reactions to almond and therefore it was included in the original EC allergens legislation (EC 2003/89; Annex IIIA), which became effective in 2005.

**ALMOND-CHECK ELISA KITS** are designed for the measurement of almond content nominally equivalent to a range of 0.5-10.0 PPM or above of total almond (Limit Of Detection <0.25PPM). The assay detects almond protein as a marker of total almond content; almonds contain ~21% protein (ref: [USDA Nutritional tables](#)) and therefore the LOD and nominal assay range correspond to ~0.05 PPM & ~0.1-2.0 PPM almond protein respectively.

Food samples are firstly made homogeneous by grinding/chopping etc; a test portion of 0.5g is added to 10ml of extraction buffer and incubated at 60°C for 15 minutes (shaking every 2-3 minutes) to extract almond protein. The extract is centrifuged or allowed to settle prior to performing the ELISA (20 + 20 + 20 min. incubation times).

### DIAGRAM OF ALLERGEN-CHECK ELISA METHODS



The prevalence of food allergies is increasing, the age at onset is decreasing and the condition can have severe effects, including breathing difficulties, anaphylaxis and in rare instances, death. Accordingly, new legislation has been put in place to ensure that allergy sufferers are informed of the presence of key food allergens. In the EC, Directives 2003/89 & 2005/26 became fully implemented in November 2005 and in the USA, the Food Allergen Labeling and Consumer Protection Act (FALCPA) came into force early in 2006; both mandate the clear labelling of particular food allergens. In the **EC** the allergens for which legislation specifically demands inclusion in the ingredient list are: celery/celeriac; cereals (wheat, rye, spelt/kamut or their hybridised strains, barley, oats); crustacea; eggs; fish; lupin; molluscs; mustard; peanuts; sesame; soya & tree nuts (almond, Brazil, cashew, hazelnut, macadamia/Queensland, pecan pistachio, walnut). In the **USA** the list is similar but excludes celery/celeriac, lupin, mollusc, mustard & sesame. Food producers are being advised by food protection agencies such as the UK's FSA and the US FDA to use best practice by restricting the use of so-called "may contain" labelling to products whose manufacturing processes have been assessed using HACCP and for which the presence of undeclared allergens is both significant and unavoidable.

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ALLERGEN-CHECK & GLUTEN-CHECK ELISAs : PRODUCT OVERVIEW

Product Name	Wells	Cat. No.	Product Description
Gluten-Check Including Extraction Kit	96	R6006-2E	Gluten (ó-gliadin) detection by ELISA (LOD <0.5ppm; range 5-110ppm gluten) INCLUDING 1 x A6017 for each 48 wells.
	48	R6005-1E	
Fish-Check Including Extraction Kit	96	R6010-2E	Fish protein detection by ELISA (LOD <1ppm; range 5-125ppm cod) INCLUDING 1 x A6015 for each 48 wells.
	48	R6009-1E	
Fish-Check	96	R6010	Fish protein detection by ELISA (LOD <1ppm; range 5-125ppm cod)
	48	R6009	
Almond-Check*	96	R6018	Almond protein detection by ELISA (LOD <0.25ppm almond; range 0.5-10ppm almond)
	48	R6019	
β-LG/Milk-Check*	96	R6036	Beta-Lactoglobulin (milk/whey) detection by ELISA (LOD <0.1ppm Skim Milk Powder; range 0.2-7ppm)
	48	R6037	
Casein/Milk-Check	96	R6022	Casein (milk/caseins/caseinates) detection by ELISA (LOD <0.2ppm Skim Milk Powder; range 0.8-16ppm)
	48	R6023	
Cashew-Check*	96	R6046	Cashew protein detection by ELISA (LOD <0.2ppm cashew; range 2-50ppm cashew)
	48	R6047	
Crustacea-Check	96	R6026	Crustacea protein detection by ELISA (LOD 1ppb tropomyosin; range 20-400ppb)
	48	R6027	
Egg-Check*	96	R6032	Egg White protein detection by ELISA (LOD <0.2ppm Egg White Protein; range 0.4-8ppm)
	48	R6033	
Egg-In-Wine-Check	96	R6044	Egg White protein detection by ELISA (LOD <0.1ppm Egg White Protein; range 0.5-15ppm)
	48	R6045	
Hazelnut-Check*	96	R6014	Hazelnut protein detection by ELISA (LOD <0.5ppm hazelnut; range 1-40ppm hazelnut)
	48	R6015	
Lupin-Check*	96	R6030	Lupin protein detection by ELISA (LOD <0.5ppm lupin; range 2-30ppm lupin)
	48	R6031	
Total Milk-Check	96	R6040	Casein & β-LG detection by ELISA (LOD <0.1ppm Skim Milk Powder; range 1-27ppm)
	48	R6041	
Mustard-Check*	96	R6012	Mustard protein detection by ELISA (LOD 1ppm mustard; range 2-50ppm mustard)
	48	R6013	
Peanut-Check*	96	R6020	Peanut protein detection by ELISA (LOD <0.5ppm peanut; range 1-30ppm peanut)
	48	R6021	
Pistachio-Check*	96	R6042	Pistachio protein detection by ELISA (LOD <0.2ppm pistachio; range 1-25ppm pistachio)
	48	R6043	
Sesame-Check*	96	R6028	Sesame protein detection by ELISA (LOD 0.2ppm sesame; range 2-20ppm sesame)
	48	R6029	
Soya-Check*	96	R6024	Soya Trypsin Inhibitor detection by ELISA (LOD <1ppm soya flour; range 2-25ppm soya flour)
	48	R6025	
Walnut-Check*	96	R6016	Walnut protein detection by ELISA (LOD <1ppm walnut; range 2-50ppm walnut)
	48	R6017	

\*Food sample extracts from these kits are fully compatible and can be used in any other of the kits marked \*.

NOTE: The LOD & Range data given above refer to PPM of the commodity itself and – unless indicated otherwise – NOT PPM of allergenic protein, for which the equivalent values are substantially lower.