Allergic Antigen Detection Kits

Allergic diseases and symptoms arise from an active immune response to normally innocuous antigens such as pollen, pet dander, or foods. In allergic diseases, food allergies and asthma are two prevalent childhood inflammatory diseases that have seen an increasing incidence in recent years.

To investigate the pathogenic role of allergens such as ovalbumin (OVA), gluten, mites, and peanuts in human allergies or animal allergy models, Chondrex, Inc. provides the following allergen detection ELISA kits. Furthermore, monoclonal antibodies and antibody ELISA kits against Ara allergens, HDM allergens, OVA, and Gliadin are also available.

Peanut Allergen Detection ELISA Kits

Products	Ara h 1	Ara h 2	Ara h 3	Ara h 6
Catalog #	6045	6043	6047	6042

Immediate hypersensitivity reactions to peanuts, an IgE-mediated food allergy, have long been a significant public health concern, particularly in western countries where peanut allergy often persists into adulthood. Of the eleven identified peanut allergens, Ara h 1, Ara h 2, Ara h 3, and Ara h 6 are recognized as the major allergens.

Mite Allergen Detection ELISA Kits

Products	Der p 1	Der p 10 & Der f 10	Acarus siro
Catalog #	6044	6031	6050

HDM allergens are among the most important indoor allergens affecting humans. Among these HDM allergens, Der p 1 is a major HDM allergen, eliciting an IgE response in over 70% of allergic patients, while Der p 10 is recognized by IgE antibodies in approximately 10% of asthmatic patients.

OVA Detection ELISA Kit

Products	Ovalbumin
Catalog #	6032

Egg allergy is observed in 0.5 to 2.5% of young children. Egg allergy is an immunological reaction induced by egg proteins and is defined as an allergen-specific IgE antibody-mediated allergic reaction, also known as type I food allergy. Among egg proteins, OVA is one of the identified allergenic proteins.

Gluten Allergen Detection ELISA Kits

Products	Gliadin	Glutenin
Catalog #	6035	6052

Gluten contains two main allergenic proteins, gliadin and glutenin, which can trigger gluten-related disorders. These disorders can only be treated with a lifelong wheat elimination diet. Therefore, accurate gluten monitoring systems must be used to keep gluten levels below the acceptable threshold that defines "gluten-free" limits in foods.

Peanut Allergen Detection for Mouse Serum

Chondrex, Inc. has developed ELISA kits to detect peanut allergens: Ara h 1, Ara h 2, Ara h 3, and Ara h 6. Recovery assays have been performed using standards and peanut extract samples with results in the 90-110% range. However, when biological fluids such as anti-allergen antibodies and/or serum proteins are used, they may bind the allergen either specifically or non-specifically. This binding can mask antibody epitopes, resulting in reduced reactivity in the assay. In this study, we performed recovery assays using pooled mouse serum samples to evaluate the performance of the kits.

The recovery results varied depending on the kit type and serum concentration with the following ranges: Ara h 1: 22-60%, Ara h 2: 72-91%, Ara h 3: 58-81%, and Ara h 6: 70-80%. These results showed an inverse correlation with mouse serum concentration. Overall, Chondrex, Inc. recommends using 10% serum samples with a 1:10 dilution in sample dilution buffer. Under these conditions, the assay results are acceptable, with recoveries higher than 70-90% for the Ara h 2, h 3, and h 6 ELISA kits, and 50% for the Ara h 1 ELISA kit.

Kit (Catalog #)	Mouse Serum (%)	Serum only	Added Standard	Expected	Result (pg/ml)	Recovery
Ara h 1 6045	50	ND	50	50.0	11.0	22.0%
	25	ND	50	50.0	15.7	31.4%
	12.5	ND	50	50.0	23.4	46.7%
	6.3	ND	50	50.0	30.3	60.6%
Ara h 2 6043	50	ND	50	50.0	38.3	71.9%
	25	ND	50	50.0	42.3	79.2%
	12.5	ND	50	50.0	45.1	84.7%
	6.3	ND	50	50.0	48.4	90.7%
Ara h 3 6047	50	ND	500	500.0	289.2	57.8%
	25	ND	500	500.0	324.3	62.9%
	12.5	ND	500	500.0	336.3	67.3%
	6.3	ND	500	500.0	406.3	81.3%
Ara h 6 6042	50	54.2	1000	1054.2	679.6	69.8%
	25	18.0	1000	1018.0	710.0	77.2%
	12.5	26.4	1000	1026.4	687.6	73.8%
	6.3	45.3	1000	1045.3	758.5	79.6%

NOTE: Validation Data for the Ara h Allergen Detection ELISA Kits in Food Samples

Test	Ara h 1	Ara h 2	Ara h 3	Ara h 6
Intra-Assay CV (%)	3.7 - 7.2	2.1 - 8.3	0.8 - 5.2	4.5 – 9.0
Inter-Assay CV (%)	3.8 - 8.7	2.8 - 8.7	7.7 - 9.7	3.0 - 3.5
Spike Test (%)	99 - 103%	92 - 97%	95 - 103%	101 - 104%