



ITEA Inc. Institute of Tokyo Environmental Allergy  
**Products for environmental allergen research**



Sandwich ELISA (Enzyme-linked immunosorbent assay) is a method for detecting and quantifying allergens using two types of antibodies that react specifically to a target allergen.

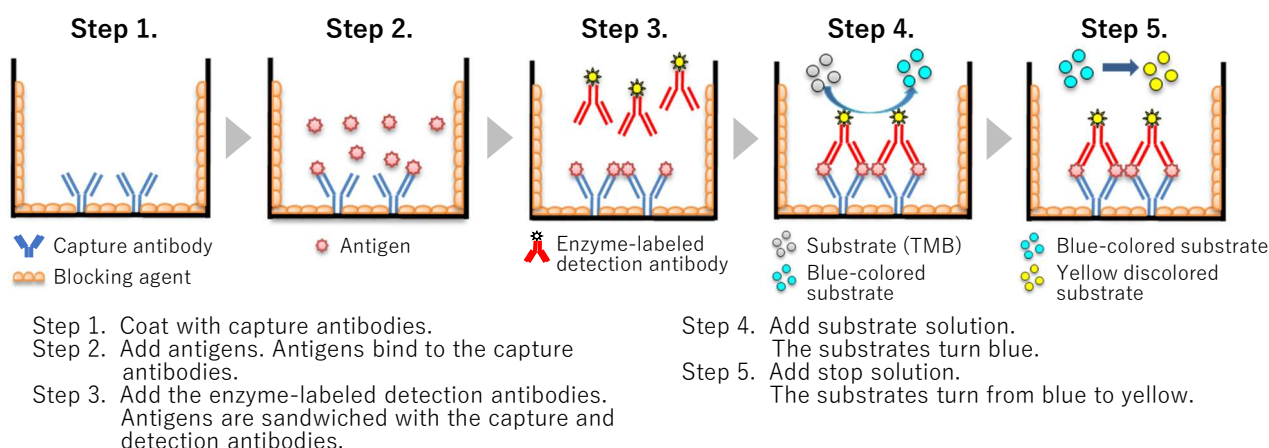
As for ELISA kits ITEA offers, you can choose from the followings:

All-in-one type including microplates pre-coated with capture antibody and necessary reagents.  
Self-build type consisting of capture antibody, enzyme-labeled detection antibody and standard.

## 1. Product Overview

### Principle of ELISA

After 5 steps below, the absorbance is measured and the antigen concentration in the sample is calculated from the standard curve.



### Example of ELISA kit usage

- Measurement of mite or Japanese cedar pollen allergens in house dust
- Measurement of airborne allergens
- Measurement of mite allergens in bedding
- Measurement of mite allergens mixed in food
- Development and performance evaluation of anti-allergen products
- Measurement of OVA concentration in serum and milk, etc.

### Component

ITEA ELISA Kits are including the followings:

#### ■ All-in-one type



\* The photo is for illustrative purposes only.

Reagents	Pack Size	Reagents	Pack Size
Capture antibody coated microplates	2 packs(8 wells × 6 strips/pack)	Dilute solution (for sample and reagent)	30 mL x 2
Standard (lyophilized)	1 or 2 for 4 measurements	Wash solution (20 x concentrated)	30 mL x 1 (for 600 mL)
Enzyme-labeled antibody*1	12 mL x 1	Microplate seal	3
TMB solution	12 mL x 1	Manual	1
Stop solution (0.5 M sulfuric acid)	12 mL x 1		

\*1 Only #1-DFH-001 contains Biotin-labeled anti-Der f 1 antibody 120 µL x 1.

\*2 Only #1-DFH-001 contains enzyme-labeled streptavidin 120 µL x 1.

#### ■ Self-build type



\* The photo is for illustrative purposes only.

Reagents	Pack size
Capture monoclonal antibody for coating	1 (for 3 measurements in 96well-plate)
Standard (lyophilized)	The quantity varies from lot to lot.
Biotin-labeled or HRP-labeled monoclonal antibody	1 (for 3 measurements in 96well-plate)
Manual	1



## 2. Product Info

### ■ All-in-one type

These are All-in-one type ELISA kits which include microplates pre-coated with capture antibody and necessary reagents. ITEA offers ELISA kits for major allergens of Japanese cedar pollen, house dust mites and OVA with the following features.

<b>SPEEDY</b> Reaction Time <b>2h 15min - 3h 45min</b>	<b>HIGHLY SENSITIVE</b> Measurement Range From <b>31.2 pg/mL</b>	<b>SPECIFIC</b> to major allergens	<b>CONVENIENT</b> Measurable at room Temp.
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This kit is designed to measure OVA from chicken eggs. It can be used for measuring OVA in immunological and allergic studies.

Product code	Product name
1-OVA-001	ITEA OVA ELISA Kit



Specification:	Spike and recovery test:	Standard curve example:																																
<table border="1"> <tr><td>Storage</td><td>2-8 °C</td></tr> <tr><td>Reaction Time</td><td>2 hours 15 min.</td></tr> <tr><td>Measurement Range</td><td>0.78-50 ng/mL</td></tr> <tr><td>Within-day Imprecision</td><td>CV &lt; 3 %</td></tr> <tr><td>Between-day Imprecision</td><td>CV &lt; 14 %</td></tr> <tr><td>Intermediate Precision</td><td>CV &lt; 14 %</td></tr> </table> <p>* OVA samples were measured in triplicate x 6 times and the reproducibilities were evaluated.</p>	Storage	2-8 °C	Reaction Time	2 hours 15 min.	Measurement Range	0.78-50 ng/mL	Within-day Imprecision	CV < 3 %	Between-day Imprecision	CV < 14 %	Intermediate Precision	CV < 14 %	<table border="1"> <thead> <tr> <th>Sample</th> <th>Recovery Rate (%)</th> </tr> </thead> <tbody> <tr><td rowspan="6">Serum</td><td>Mouse</td><td>96.5</td></tr> <tr><td>Rat</td><td>97.6</td></tr> <tr><td>Human</td><td>94.5</td></tr> <tr><td>Rabbit</td><td>103.5</td></tr> <tr><td>Dog</td><td>103.1</td></tr> <tr><td>Bovine fetus</td><td>105.2</td></tr> <tr><td rowspan="2">Cell culture fluid, containing 10% fetal bovine serum</td><td>RPMI</td><td>99.5</td></tr> <tr><td>DMEM</td><td>103.7</td></tr> </tbody> </table> <p>* Samples were diluted by 10 times.</p>	Sample	Recovery Rate (%)	Serum	Mouse	96.5	Rat	97.6	Human	94.5	Rabbit	103.5	Dog	103.1	Bovine fetus	105.2	Cell culture fluid, containing 10% fetal bovine serum	RPMI	99.5	DMEM	103.7	
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This is an ELISA kit to measure Cry j 1, one of major allergen of Japanese cedar pollen, *Cryptomeria japonica*, which is suitable for measurement of Cry j 1 in samples, evaluation verification of allergen reduction effect, etc.

Product code	Product name
1-CJ1-001	ITEA Cry j 1 ELISA Kit



Specification:	Standard curve example:												
<table border="1"> <tr><td>Storage</td><td>2-8 °C</td></tr> <tr><td>Reaction Time</td><td>2 hours 15 min.</td></tr> <tr><td>Measurement Range</td><td>0.16-10 ng/mL</td></tr> <tr><td>Within-day Imprecision</td><td>CV &lt; 3 %</td></tr> <tr><td>Between-day Imprecision</td><td>CV &lt; 7 %</td></tr> <tr><td>Intermediate Precision</td><td>CV &lt; 8 %</td></tr> </table> <p>* Cry j 1 samples were measured in triplicate x 6 times and the reproducibilities were evaluated.</p>	Storage	2-8 °C	Reaction Time	2 hours 15 min.	Measurement Range	0.16-10 ng/mL	Within-day Imprecision	CV < 3 %	Between-day Imprecision	CV < 7 %	Intermediate Precision	CV < 8 %	
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Measurement Range	0.16-10 ng/mL												
Within-day Imprecision	CV < 3 %												
Between-day Imprecision	CV < 7 %												
Intermediate Precision	CV < 8 %												

These are ELISA kits to measure major allergens of house dust mites, which are suitable for detection of mite allergens in house dust, inspection of mite contamination in food ingredients, and verification of allergen reduction effect, etc.

◎ **What is house dust mite?**

House dust mites are the most common species found in homes. They are often in bedding, carpets, sofas, etc. and are considered as the major inhalant allergens. Of these, the following two species of the genus *Dermatophagoides* sp. account for most of the indoor dust mites:

*Dermatophagoides farinae*

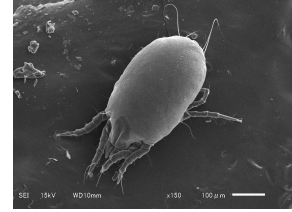
*Dermatophagoides pteronyssinus*

Der f 1 ... Major allergen derived from feces of *D. farinae*

Der p 1 ... Major allergen derived from feces of *D. pteronyssinus*

Der f 2 ... Major allergen derived from bodies of *D. farinae*

Der p 2 ... Major allergen derived from bodies of *D. pteronyssinus*



Product code	Product name
1-DF1-001	ITEA Der f 1 ELISA Kit
1-DP1-001	ITEA Der p 1 ELISA Kit

For more information  
#1-DF1-001 ↓



For more information  
#1-DP1-001 ↓



Specification:	Der f 1 :	Standard curve example:												
<table border="1"> <tr> <td>Storage</td> <td>2-8 °C</td> </tr> <tr> <td>Reaction Time</td> <td>2 hours 15 min.</td> </tr> <tr> <td>Measurement Range</td> <td>0.23-30 ng/mL</td> </tr> </table>	Storage	2-8 °C	Reaction Time	2 hours 15 min.	Measurement Range	0.23-30 ng/mL	<table border="1"> <tr> <td>Within-day Imprecision</td> <td>CV &lt; 4 %</td> </tr> <tr> <td>Between-day Imprecision</td> <td>CV &lt; 8 %</td> </tr> <tr> <td>Intermediate Precision</td> <td>CV &lt; 9 %</td> </tr> </table>	Within-day Imprecision	CV < 4 %	Between-day Imprecision	CV < 8 %	Intermediate Precision	CV < 9 %	
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	<table border="1"> <tr> <td>Der p 1 :</td> <td></td> </tr> <tr> <td>Within-day Imprecision</td> <td>CV &lt; 5 %</td> </tr> <tr> <td>Between-day Imprecision</td> <td>CV &lt; 4 %</td> </tr> <tr> <td>Intermediate Precision</td> <td>CV &lt; 6 %</td> </tr> </table>	Der p 1 :		Within-day Imprecision	CV < 5 %	Between-day Imprecision	CV < 4 %	Intermediate Precision	CV < 6 %					
Der p 1 :														
Within-day Imprecision	CV < 5 %													
Between-day Imprecision	CV < 4 %													
Intermediate Precision	CV < 6 %													

\* Der f 1 or Der p 1 samples were measured in triplicate x 6 times and the reproducibilities were evaluated.

Product code	Product name
1-DF2-001	ITEA Der f 2 ELISA Kit*1
1-DP2-001	ITEA Der p 2 ELISA Kit*2

For more information  
#1-DF2-001 ↓



For more information  
#1-DP2-001 ↓



\*1 Der f 2 concentration in samples including Der f 2 and Der p 2 cannot be precisely quantified with this kit since it has cross-reactivity to Der f 2 and Der p 2.  
\*2 Der p 2 concentration in samples including Der f 2 and Der p 2 cannot be precisely quantified with this kit since it has cross-reactivity to Der f 2 and Der p 2.

Specification:	Der f 2 :	Standard curve example:												
<table border="1"> <tr> <td>Storage</td> <td>2-8 °C</td> </tr> <tr> <td>Reaction Time</td> <td>2 hours 15 min.</td> </tr> <tr> <td>Measurement Range</td> <td>0.08-10 ng/mL</td> </tr> </table>	Storage	2-8 °C	Reaction Time	2 hours 15 min.	Measurement Range	0.08-10 ng/mL	<table border="1"> <tr> <td>Within-day Imprecision</td> <td>CV &lt; 6 %</td> </tr> <tr> <td>Between-day Imprecision</td> <td>CV &lt; 6 %</td> </tr> <tr> <td>Intermediate Precision</td> <td>CV &lt; 8 %</td> </tr> </table>	Within-day Imprecision	CV < 6 %	Between-day Imprecision	CV < 6 %	Intermediate Precision	CV < 8 %	
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	<table border="1"> <tr> <td>Der p 2 :</td> <td></td> </tr> <tr> <td>Within-day Imprecision</td> <td>CV &lt; 3 %</td> </tr> <tr> <td>Between-day Imprecision</td> <td>CV &lt; 8 %</td> </tr> <tr> <td>Intermediate Precision</td> <td>CV &lt; 9 %</td> </tr> </table>	Der p 2 :		Within-day Imprecision	CV < 3 %	Between-day Imprecision	CV < 8 %	Intermediate Precision	CV < 9 %					
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Within-day Imprecision	CV < 3 %													
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\* Der f 2 or Der p 2 samples were measured in triplicate x 6 times and the reproducibilities were evaluated.

This is a highly sensitive ELISA kit for Der f 1 with a measurement range of 31.2-2000 pg/mL. You can use it to measure trace amounts of Der f 1 that could not be measured before.



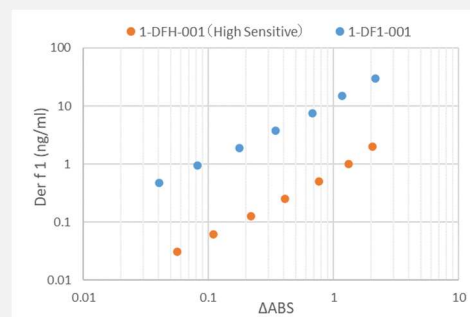
Product code	Product name
1-DFH-001	ITEA Der f 1 ELISA Kit, High Sensitive

### Specification:

Storage	2-8 °C
Reaction Time	3 hours 45 min.
Measurement Range	31.2-2000 pg/mL
Within-day Imprecision	CV < 5 %
Intermediate Precision	CV < 5 %

\* 6 samples adjusted to low, medium, and high concentration ranges within the standard curve were independently measured 4 times and calculated.

### Standard curve example:



## Self-build type

These consist of capture antibody for coating, enzyme-labeled detection antibody and standard which are necessary for measuring the major allergen of Japanese cedar pollen or house dust mites by sandwich ELISA. The reagents can be used according to the amounts of microplates required, eliminating waste of reagents and saving space for storage.



You can choose labeled-antibodies from biotin-labeled or HRP-labeled.

Storage 2-8 °C

Label	Product code	Product name
<b>Biotin-labeled</b>	1-CJ1-002	ITEA Cry j 1 ELISA Self-build Kit (Biotin-labeled)
	1-CJ2-002*1	ITEA Cry j 2 ELISA Self-build Kit (Biotin-labeled)
	1-CO1-002*1	ITEA Cha o 1 ELISA Self-build Kit (Biotin-labeled)
	1-CO2-002*1	ITEA Cha o 2 ELISA Self-build Kit (Biotin-labeled)
	1-DF1-002	ITEA Der f 1 ELISA Self-build Kit (Biotin-labeled)
	1-DP1-002	ITEA Der p 1 ELISA Self-build Kit (Biotin-labeled)
	1-DF2-002	ITEA Der f 2 ELISA Self-build Kit (Biotin-labeled)*2
<b>HRP-labeled</b>	1-CJ1-003	ITEA Cry j 1 ELISA Self-build Kit (HRP-labeled)
	1-DF1-003	ITEA Der f 1 ELISA Self-build Kit (HRP-labeled)
	1-DP1-003	ITEA Der p 1 ELISA Self-build Kit (HRP-labeled)
	1-DF2-003	ITEA Der f 2 ELISA Self-build Kit (HRP-labeled)*1

\*1 #1-CJ2-002, #1-CO1-002 and #1-CO2-002 are going to be launched after April, 2025.

\*2 Der f 2 concentration in samples including Der f 2 and Der p 2 cannot be precisely quantified with this kit since it has cross-reactivity to Der f 2 and Der p 2.



Reagent protocols for ELISA are available from the following URL or from the 2D code.

- Reagent protocols for ELISA <https://itea-ec.com/pages/elisa-reagent-recipe>



SDSs for all products are available from the following URL or from the 2D code.

- Document download <https://www.itea.jp/en/document-download/>



ITEA offers various crude and purified extracts that were prepared from major environmental allergens: house dust mites, pollens, pets, and fungi.

## 1. House Dust Mite Crude Extracts



### ■ Lyophilized extracts

These are lyophilized crude extracts made from the growth culture or bodies of *D. farinae* or *D. pteronyssinus*. Reconstitute the lyophilizate in 1mL of distilled water to make a phosphate buffered saline (PBS) solution (pH7.4).



<b>Storage</b>	2-8 °C
<b>Appearance</b>	Lyophilized crude extract
<b>Specification</b>	Contains preservatives. Adding 1 mL of distilled water makes it a PBS solution (pH 7.4).
<b>Attachment</b>	Product information, Certificate of analysis

Product code	Product name	Pack Size
4-DF-001	House Dust Mite Extract, Whole Culture (Df)*1	Der f 1, 10 µg
4-DP-001	House Dust Mite Extract, Whole Culture (Dp)*1	Der p 1, 10 µg
4-DF-002	House Dust Mite Extract, Whole Body (Df) *2	Total protein, 5 mg
4-DP-002	House Dust Mite Extract, Whole Body (Dp) *2	Total protein, 5 mg

\*1 Extracted from growth media (including feed and feces)

\*2 Extracted from mite bodies

### ■ Extracts containing 50% glycerol

These are crude extracts of mite allergens that can be used as an antigen for ISO 4333. #4-DF-004 should be diluted 1000 times with PBST, and #4-DP-004 should be diluted 500 times with PBST before use.



<b>Storage</b>	-20 °C*3
<b>Appearance</b>	Crude extract containing 50% glycerol
<b>Specification</b>	Contains preservatives. 1 mL/tube. #4-DF-004: 15 µg/mL x 1 tube, #4-DP-004: 7.5 µg/mL x 2 tubes
<b>Attachment</b>	Product information, Certificate of analysis

Product code	Product name	Pack Size
4-DF-004	House Dust Mite Extract, Whole Culture (Df) (Contains 50% glycerol)*4	Der f 1, 15 µg
4-DP-004	House Dust Mite Extract, Whole Culture (Dp) (Contains 50% glycerol)*4	Der p 1, 15 µg

\*3 Storage at -25°C or less may cause frozen because of glycerol containing.

\*4 Extracted from growth media (including feed and feces)

### ■ For Immunization (0.2 µm filter sterilized, preservative free)

These are suitable for generating of asthma model mice by exposure to mite allergens.



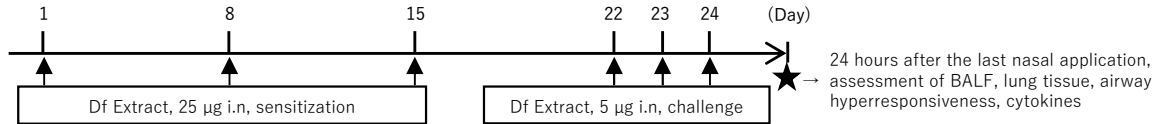
<b>Storage</b>	-20°C or less (-80°C recommended)
<b>Appearance</b>	Crude extract. 1 mL frozen PBS solution (pH 7.4) .
<b>Specification</b>	Sterilized with 0.2 µm filter. Protectants or preservatives free.
<b>Attachment</b>	Product information, Certificate of analysis

Product code	Product name	Pack Size
4-DF-003	House Dust Mite Extract For Immunization (Df)	Total protein, 1 mg
4-DP-003	House Dust Mite Extract For Immunization (Dp)	Total protein, 1 mg

## Experimental examples of #4-DF-003, House Dust Mite Extract For Immunization (Df)

### ■ Experiment on the generation of HDM-induced airway inflammation model mice using BALB/c.

\* Provided by Dr. Koichiro Takahashi, Department of Internal Medicine, Faculty of Medicine, Saga University.  
 Mouse : Female BALB/c mice, 6-8 weeks old



- Mice were administered intranasally with 25 µg as total protein of House Dust Mite Extract For Immunization (Df) (Df extract) on days 1, 8 and 15.
- Mice were challenged intranasally with 5 µg as total protein of Df extract on days 22, 23 and 24.
- 24 hours after the last intranasal dose, bronchoalveolar lavage fluid (BALF), lung histopathology, airway hyperresponsiveness, and pulmonary cytokine production were assessed.

Figure 1-1. Immunization schedule

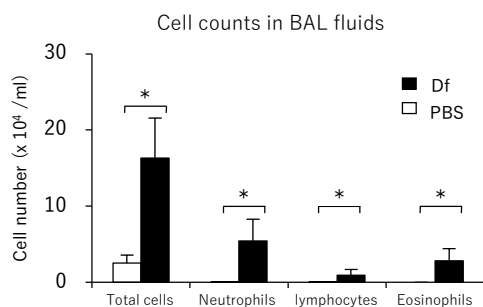


Figure 1-2. In Df-mice, there was a significant increase of total cells, neutrophils, lymphocytes and eosinophils in BAL fluid. \* $p < 0.05$

#### Pathological findings of the pulmonary bronchi

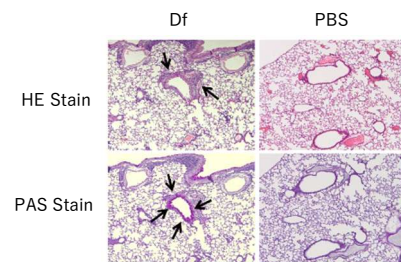
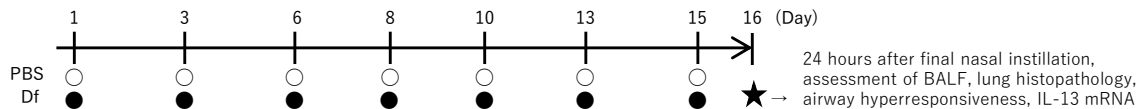


Figure 1-3. In Df-mice, there was a significant increase of total cells, neutrophils, lymphocytes and eosinophils in BAL fluid. \* $p < 0.05$

### ■ Experiment on the generation of asthma model mice using C57BL/6.

\* Provided by Professor Naomi Yamashita, Department of Pharmacotherapy, Research Institute of Pharmaceutical Sciences, Musashino University.  
 Mouse : Female C57BL/6 mice, 6-8 weeks old



- House Dust Mite Extract For Immunization (Df) was administered intranasally to the mice at a total protein content of 30 µg once every 2 to 3 days for a total of 7 times.
- 24 hours after the last intranasal dose, BALF, lung histopathology, airway hyperresponsiveness, and IL-13 mRNA expression in the lung were assessed.

Figure 2-1. Immunization schedule

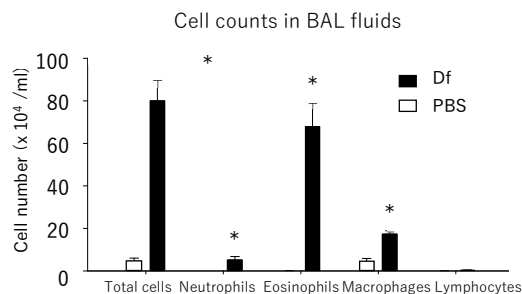


Figure 2-2. In the Df-mice, a significant increase in the total number of cells in the BALF was observed, and in particular, the increase in the number of eosinophils was remarkable.

#### Pathological findings of the pulmonary bronchi

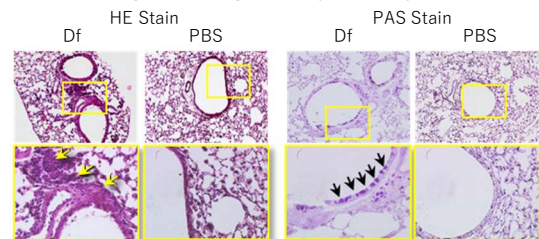


Figure 2-3. In the Df-mice, accumulation of inflammatory cells (eosinophil infiltration) under the airway epithelium and hyperplasia of goblet cells in the mucosal epithelium were observed.



Literatures on examples of experiments using 4-DF-003 can be found on the product page below.

[https://itea-ec.com/products/cd\\_4-df-003](https://itea-ec.com/products/cd_4-df-003)







For more information ↓



## 2. Pollen Allergen Crude Extracts

We can also produce in other specifications or other pollen extracts not listed below.

### ■ Lyophilized extracts

These are lyophilized crude extracts made from pollen. Reconstitute the lyophilizate in 1mL of distilled water to make a phosphate buffered saline (PBS) solution (pH7.4).



<b>Storage</b>	2-8 °C
<b>Appearance</b>	Lyophilized crude extract
<b>Specification</b>	Contains preservatives. Adding 1 mL of distilled water makes it a PBS solution (pH 7.4).
<b>Attachment</b>	Product information, Certificate of analysis

Product code	Product name	Pack Size
4-CJ-001	Japanese Cedar Pollen Extract	Cry j 1, 10 µg
4-PP-001	Timothy Pollen Extract	Not specified.*1
4-AA-001	Ragweed Pollen Extract	Not specified.*1

\*1 Only total protein concentration is measured, which varies from lot to lot.

### ■ Extracts contains 50% glycerol

This product is a crude extract of Japanese cedar pollen allergen that can be used as an antigen for ISO 4333. Dilute 500 times with PBST before use.



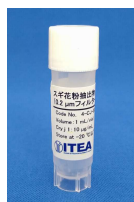
<b>Storage</b>	-20 °C*2
<b>Appearance</b>	Crude extract containing 50% glycerol
<b>Specification</b>	Contains preservatives. 1 mL/tube (7.5 µg/mL x 2 tubes)
<b>Attachment</b>	Product information, Certificate of analysis

Product code	Product name	Pack Size
4-CJ-004	Japanese Cedar Pollen Extract (Contains 50% glycerol)	Cry j 1, 15 µg

\*2 Storage at -25°C or less may cause frozen because of glycerol containing.

### ■ Frozen solutions (0.2 µm filtered, no preservatives)

These are crude extracts of a frozen solution prepared from pollens, which are sterilized through a 0.2 µm filter and contain no protectants or preservatives.



<b>Storage</b>	-20°C or less (-80°C recommended)
<b>Appearance</b>	Crude extract. 1 mL frozen PBS solution (pH 7.4) .
<b>Specification</b>	Sterilized with 0.2 µm filter. Protectants or preservatives free.
<b>Attachment</b>	Product information, Certificate of analysis

Product code	Product name	Pack Size
4-CJ-005	Japanese Cedar Pollen Extract (0.2 µm filtered, no preservatives)	Cry j 1, 10 µg
4-PP-005	Timothy Pollen Extract (0.2 µm filtered, no preservatives)	Not specified.*3
4-AA-005	Ragweed Pollen Extract (0.2 µm filtered, no preservatives)	Not specified.*3

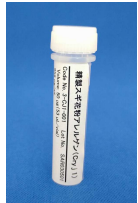
\*3 Only total protein concentration is measured, which varies from lot to lot.

For more information ↓



## ■ Purified Allergens

ITEA offers purified major allergens of Japanese cedar pollen and cypress pollen. Please use them in your research in addition to our conventional crude extracts.

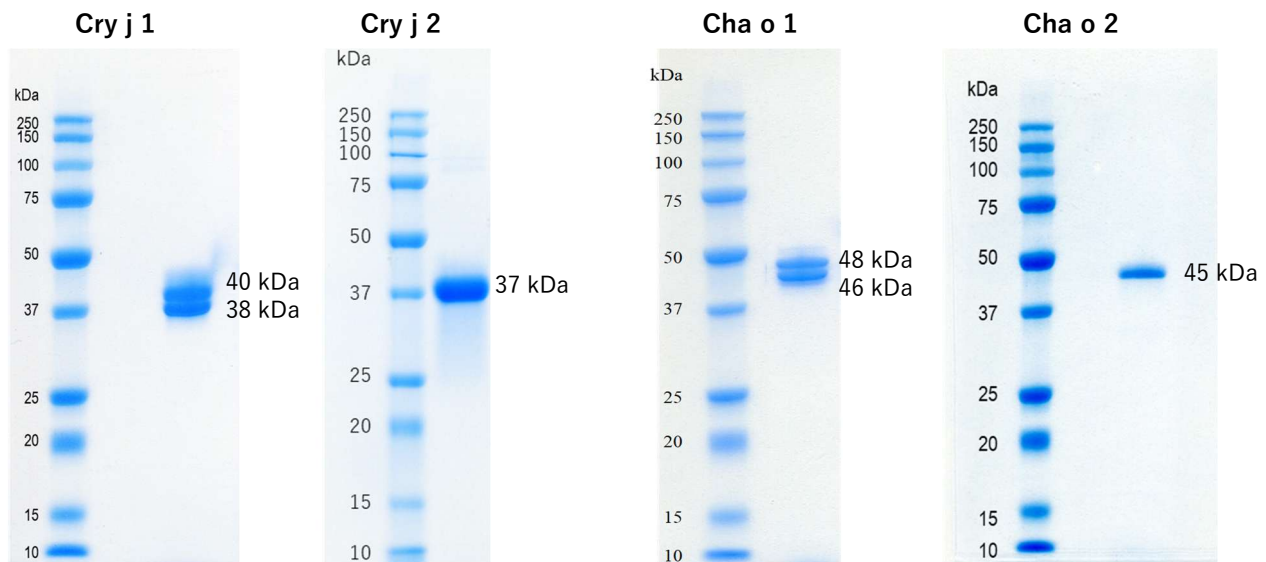


<b>Storage</b>	-20°C or less (-80°C recommended)
<b>Purification Method</b>	Purified by ammonium sulfate salting out and various types of chromatography.
<b>Specification</b>	<ul style="list-style-type: none"> <li>• Contains 50 or 25 µg/tube of purified allergen, which have been measured by the Lowry method using BSA as a standards.</li> <li>• Frozen solution</li> <li>• Protectants or preservatives free</li> </ul>
<b>Attachment</b>	Product information, Certificate of analysis

Product code	Product name	Pack Size
3-CJ1-001	Cry j 1, Purified Japanese Cedar Pollen Allergen	50 µg
3-CJ2-001	Cry j 2, Purified Japanese Cedar Pollen Allergen	25 µg
3-CO1-001	Cha o 1, Purified Cypress Pollen Allergen	50 µg
3-CO2-001	Cha o 2, Purified Cypress Pollen Allergen	25 µg

### © Electrophoretic images

All electrophoresis were performed under reducing conditions.





For more information ↓



## 3. Pet Allergen Crude Extracts

As more and more people keep pets indoors, the number of people suffering from pet allergies has been increasing in recent years. It has been revealed that the exposure to dog or cat allergens in households where dogs or cats are kept is greater than the mite allergens that cause childhood asthma.

### ■ Lyophilized extracts

These are lyophilized crude extract made from hair or epithelium of dog or cat. Reconstitute the lyophilizate in 1mL of distilled water to make a phosphate buffered saline (PBS) solution (pH7.4).



<b>Storage</b>	2-8 °C
<b>Appearance</b>	Lyophilized crude extract
<b>Specification</b>	Contains preservatives. Adding 1 mL of distilled water makes it a PBS solution (pH 7.4).
<b>Attachment</b>	Product information, Certificate of analysis

Product code	Product name	Pack Size
4-CF-001	Dog Hair and Epithelia Extract* <sup>1</sup>	Not specified.* <sup>2</sup>
4-CF-011	Dog Hair Extract	Not specified.* <sup>3</sup> (major allergen concentration noted.)
4-FD-011	Cat Hair Extract	Not specified.* <sup>3</sup> (major allergen concentration noted.)

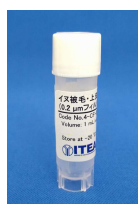
\*1 #4-CF-001 will be discontinued as soon as stock runs out from October 7, 2024.

\*2 Only total protein concentration is measured, which varies from lot to lot.

\*3 Major allergen and total protein concentration are measured, which vary from lot to lot.

### ■ Frozen solutions (0.2 μm filtered, no preservatives)

These are crude extracts of a frozen solution prepared from hair or epithelium of dog or cat, which are sterilized through a 0.2 μm filter and contain no protectants or preservatives.



<b>Storage</b>	-20°C or less (-80°C recommended)
<b>Appearance</b>	Crude extract. 1 mL frozen PBS solution (pH 7.4) .
<b>Specification</b>	Sterilized with 0.2 μm filter. Protectants or preservatives free.
<b>Attachment</b>	Product information, Certificate of analysis

Product code	Product name	Pack Size
4-CF-005	Dog Hair and Epithelia Extract* <sup>4</sup> (0.2 μm filtered, no preservatives)	Not specified.* <sup>5</sup>
4-FD-005	Cat Hair and Epithelia Extract* <sup>4</sup> (0.2 μm filtered, no preservatives)	Not specified.* <sup>5</sup>
4-CF-015	Dog Hair Extract (0.2 μm filtered, no preservatives)	Not specified.* <sup>6</sup> (major allergen concentration noted.)
4-FD-015	Cat Hair Extract (0.2 μm filtered, no preservatives)	Not specified.* <sup>6</sup> (major allergen concentration noted.)

\*4 #4-CF-005 and #4-FD-005 will be discontinued as soon as stock runs out from October 7, 2024.

\*5 Only total protein concentration is measured, which varies from lot to lot.

\*6 Major allergen and total protein concentration are measured, which vary from lot to lot.



For more information ↓



## 4. Fungi Allergen Crude Extracts

*Alternaria alternata* and *Aspergillus fumigatus* are important fungi that are risk factors for the onset and exacerbation of allergic diseases such as allergic rhinitis and asthma.

### ■ Lyophilized extracts

These are lyophilized crude extract made from mold powder containing both mycelium and spores. Reconstitute the lyophilizate in 1mL of distilled water to make a phosphate buffered saline (PBS) solution (pH7.4).



<b>Storage</b>	2-8 °C
<b>Appearance</b>	Lyophilized crude extract
<b>Specification</b>	Contains preservatives. Adding 1 mL of distilled water makes it a PBS solution (pH 7.4).
<b>Attachment</b>	Product information, Certificate of analysis

Product code	Product name	Pack Size
4-AT-001	Fungi Extract ( <i>Alternaria alternata</i> )	Not specified.*1
4-AS-001	Fungi Extract ( <i>Aspergillus fumigatus</i> )	Not specified.*1

\*1 Only total protein concentration is measured, which varies from lot to lot.

### ■ Frozen Solutions (0.2 μm filtered, no preservatives)

These are crude extracts of a frozen solution extracted from mold powder (containing both mycelium), which are sterilized through a 0.2 μm filter and contain no protectants or preservatives.



<b>Storage</b>	-20°C or less (-80°C recommended)
<b>Appearance</b>	Crude extract. 1 mL frozen PBS solution (pH 7.4) .
<b>Specification</b>	Sterilized with 0.2 μm filter. Protectants or preservatives free.
<b>Attachment</b>	Product information, Certificate of analysis

Product code	Product name	Pack Size
4-AT-005	Fungi Extract ( <i>Alternaria alternata</i> ) (0.2 μm filtered, no preservatives)	Not specified.*2
4-AS-005	Fungi Extract ( <i>Aspergillus fumigatus</i> ) (0.2 μm filtered, no preservatives)	Not specified.*2

\*2 Only total protein concentration is measured, which varies from lot to lot.



SDSs for all products are available at the following URL or 2D code.

● Document download  
<https://www.itea.jp/en/document-download/>



### ■ Other made-to-order products

Please feel free to contact us if you would like specifications other than those listed in this catalog (allergen type, amount, concentration, extraction solvent, etc.).

E-mail [reag-info@itea.jp](mailto:reag-info@itea.jp)



We offer polyclonal antibodies for bovine serum albumin (BSA).



## ■ Non-labeled polyclonal antibody

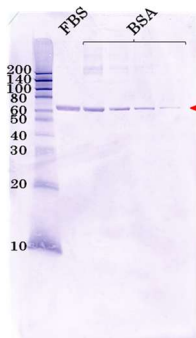


<b>Storage</b>	2-8 °C
<b>Appearance</b>	Lyophilized
<b>Specification</b>	Contains preservatives. Anti-BSA antibody, 0.1 mg Adding 50 $\mu$ L of distilled water makes it a PBS solution (pH 7.4) with an antibody concentration of 2 mg/mL.
<b>Attachment</b>	Product information

Product code	Product name	Pack size
2-BP-001	Rabbit Anti-BSA Polyclonal Antibody	Antibody, 0.1 mg

### Example of use: Western Blotting

Recommended antibody concentration: 0.5-1  $\mu$ g/mL



Sample: FBS, BSA (0.5, 0.25, 0.125, 0.0625  $\mu$ g/lane)

- 1) Block the membrane with a blocking agent without BSA.  
Incubate for 1 hour at room temperature.
- 2) Use the antibody adjusted to 1  $\mu$ g/mL in diluent containing blocking agent.  
Incubate for 1 hour at room temperature.
- 3) Use alkaline phosphatase-conjugated anti-rabbit IgG antibody adjusted with diluent.  
Incubate for 1 hour at room temperature.
- 4) A band is detected with BCIP/NBT at the position of molecular weight that matches BSA.

## ■ Biotinylated polyclonal antibody

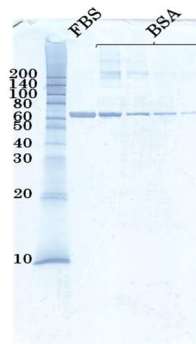


<b>Storage</b>	2-8 °C
<b>Appearance</b>	Lyophilized
<b>Specification</b>	Contains preservatives. Anti-BSA antibody, 0.1 mg Adding 200 $\mu$ L of distilled water makes it a PBS solution (pH 7.4) with an antibody concentration of 500 $\mu$ g/mL.
<b>Attachment</b>	Product information

Product code	Product name	Pack size
2-BP-002	Biotinylated Rabbit Anti-BSA Polyclonal Antibody	Antibody, 0.1 mg


### Example of use: Western Blotting

Recommended antibody concentration: 0.5-1  $\mu$ g/mL



Sample: FBS, BSA (0.5, 0.25, 0.125, 0.0625  $\mu$ g/lane)

- 1) Block membrane with PBS containing 10% rabbit serum.  
Incubate for 1 hour at room temperature.
- 2) Use the antibody adjusted to 1  $\mu$ g/mL in PBS with 10% rabbit serum containing 0.05% Tween 20.  
Incubate for 1 hour at room temperature.
- 3) Use Streptavidin-peroxidase.  
Incubate for 1 hour at room temperature.
- 4) A band is detected with TMB at the position of molecular weight that matches BSA.

 SDSs for all products are available at the following URL or 2D code.

● Document download  
<https://www.itea.jp/en/document-download/>



Here are some of the questions we receive from our customers about our products.

**Q** How do I purchase the products?

**A** Our products can be purchased through reagent dealers.

**Q** How can I inquire about your products; inventory, due dates, specifications, etc.?

**A** If you have any questions about our products, please feel free to contact us.  
 ITEA Inc. Reagent Development Dept.  
 E-mail: [reag-info@itea.jp](mailto:reag-info@itea.jp), FAX: +81-3-3526-2032  
 For inquiries <https://www.itea.jp/en/inquiry/>

For inquiries



**Q** I want to purchase only standard solutions and antibodies. Do you sell reagents separately from the ELISA kit?

**A** As ELISA Self-build Kits, we provide sets of capture monoclonal antibody for coating, biotin- or HRP-labeled detection monoclonal antibody and standard solution.  
 Product code: 1-CJ1-002, 1-DF1-002, 1-DF2-002, 1-DP1-002, 1-CJ1-003, 1-DF1-003, 1-DF2-003, 1-DP1-003  
 ELISA Kits <https://www.itea.jp/en/product-info-elisa-kits/#elisa>

ELISA Kits



**Q** Do the extracts dissolve in distilled water?

**A** Yes, they dissolve completely in distilled water and will become phosphate buffered saline (PBS) solutions (pH7.4).  
 However, some cloudiness may occur.

**Q** Why is filtration performed in the process of producing extracts?

**A** The purpose of filtration depends on the pore size of the filter. A 0.8  $\mu\text{m}$  or 0.45  $\mu\text{m}$  membrane will filter out impurities in the extract. Using a 0.2  $\mu\text{m}$  filter is intended for filtration of smaller particles like microorganisms, sediments, etc.

**Q** Does the preservative contained in the extract affect the ELISA measurement system?

**A** Proclin™ 950 is added as preservatives, which has no effect on the enzymes used in routine ELISA.  
 Products without preservatives are also available. Please feel free to consult us.

**Q** Can you make a product without preservatives for your regular product?

**A** You can purchase extracts that are sterilized with 0.2  $\mu\text{m}$  filter and preservative-free from us.  
 For more information, please see below.  
 Product Info <https://www.itea.jp/en/product-info/#allergen>

Product Info



**Q** Can ITEA extracts be used with kits made by other companies?

**A** Yes, they can. However, depending on the kit type, the allergen concentration stated in the specification of ITEA may differ slightly.

**Q** If the allergen concentration or total protein concentration is not specified for the product, can you still tell me the concentration?

**A** Yes. However, you will be requested to pay a measurement fee, and there will be a separate delivery date.

**Q** Is a Certificate of Analysis attached to a product?

**A** The following documents are attached, depending on products:

- ELISA Kits: Manual
- Extracts: Product Information, Certificate of Analysis
- Antibodies: Product Information

The Safety Data Sheet (SDS) of each product can be viewed and downloaded from the 2D code shown on the right.

Docu. download



**Q** Some of the containers are different from before.

**A** There are no specifications for the container. Please be advised that the shape of the container may change without notice.

ITEA develops and manufactures allergen materials, antibodies, and immunoassays. We utilize these technologies to provide services to meet various needs in the allergen-related field.



## Allergen Analysis Services

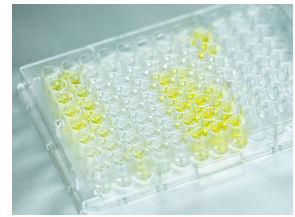
Support for development of environmental allergen control products

We support the business activities of our clients by proposing and carrying out the appropriate tests for each stage of the product development to sales process.

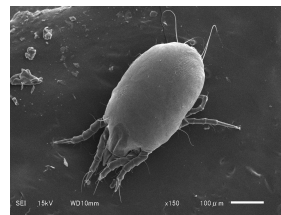
For more information →



Performance evaluations of allergen control products



Measurement of allergen in samples



Taking images and videos of dust mites, pollen, and particles



Measurement and consultation regarding allergens in the indoor environment



## Product Sales

Research and development support in the field of immunology and allergy

We support academia and companies through the development and sales of various reagents.

For more information →



- ◎ Development, manufacturing and sales of various ELISA kits, antibodies and allergen extracts
- ◎ Support for commercialization of research results in academia
- ◎ Collaboration with academia or companies



## Environmental improvement consulting

We provide a consulting service to improve indoor environment by utilizing our knowledge of allergens and measurement technology.

For more information →



- ◎ Creating a system to reduce allergy symptoms through the following three measures.



1. Measurement of allergens indoor



2. Symptom survey (QOL questionnaire)



3. Environmental improvement consulting



Pioneering new technologies  
in the field of immunology  
and allergy

Our products and services are based on a wide variety of allergenic raw materials, allergen extraction and purification from raw materials, monoclonal antibody production, construction of immunoassays, and technologies such as increasing sensitivity and speed of ELISA.



For more info

## Carrying allergenic raw materials

- We carry a wide variety of allergenic raw materials.



House dust mites

Pollens

Pets  
(dog, cat)

Fungi  
(molds)

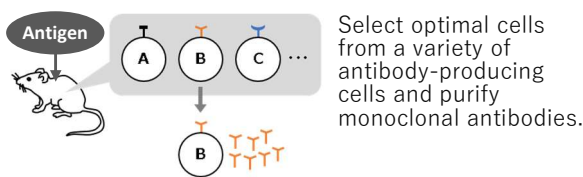
## Technologies for allergen extraction and purification from raw materials

- Allergen extracts are prepared from raw materials.
- Chromatographic techniques are used to purify target allergens from crude extracts.
- Purified allergens are used as immunogens for monoclonal antibody production, etc.



## Monoclonal antibody production technology suitable for immunoassays

- Based on the technology for producing monoclonal antibodies using rodents, we have the technology to efficiently select monoclonal antibodies suitable for immunoassays.

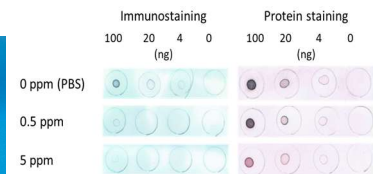


## Fundamental technologies for product evaluation

- We are working on the establishment of a highly sensitive sandwich ELISA system and the development of new methods for evaluating allergen-reducing agents, such as the dot-blot method.



ELISA kit, High Sensitive

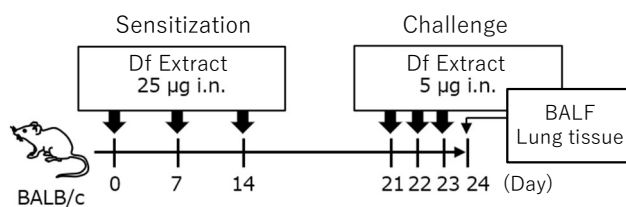


Example of dot-blot method

## New development through collaboration

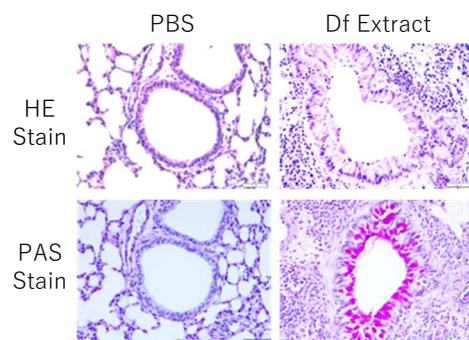
- House Dust Mite Extract For Immunization (Df) (4-DF-003) was created in collaboration with Dr. Koichiro Takahashi, Faculty of Medicine, Saga University.
- This product can stably induce allergic inflammation in the airways of BALB/c and C57BL/6 with a small number of doses and dosages, thus reducing the labor on experiments.

Example of an asthma induction protocol for this product



Dose number: 6 times per mouse, Dosage: 90 µg per mouse

Pathological picture of airway inflammation induced by this product<sup>\*1</sup>



<sup>\*1</sup> Provided by Dr. Koichiro Takahashi, Faculty of Medicine, Saga University.

### © References

- Ishii T, et al. Time-dependent distinct roles of Toll-like receptor 4 in a house dust mite-induced asthma mouse model. *Scand J Immunol.* 2018;87(3):e12641.
- Tashiro H, et al. Saturated Fatty Acid Increases Lung Macrophages and Augments House Dust Mite-Induced Airway Inflammation in Mice Fed with High-Fat Diet. *Inflammation.* 2017;40(3):1072-1086.
- Tashiro H, et al. Interleukin-33 from Monocytes Recruited to the Lung Contributes to House Dust Mite-Induced Airway Inflammation in a Mouse Model. *Ryffel B, ed. PLoS One.* 2016;11(6):e0157571.



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