



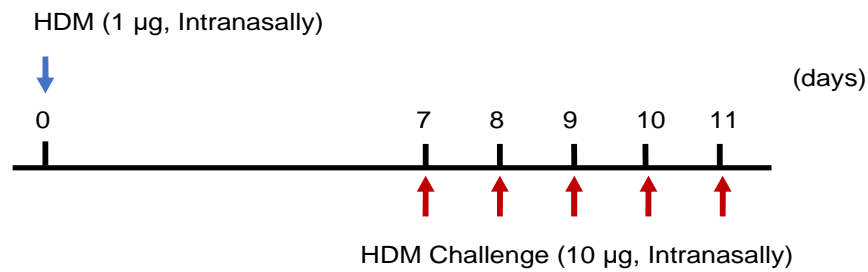
# Allergic Diseases: HDM-Induced Asthma



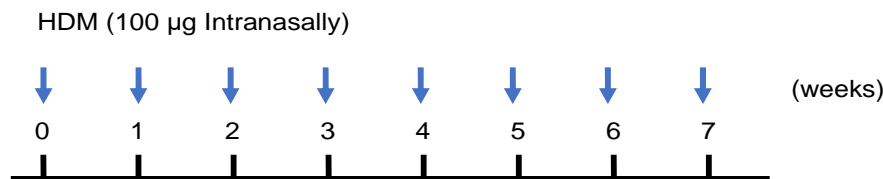
Allergies against house dust mites (HDM), a common aeroallergen, are observed in up to 85% of asthmatic patients worldwide. HDM is an immunologically complex antigen which activates both innate and adaptive immune responses (1). Moreover, it was reported that proteinases in HDM, such as trypsin-like enzymes, promoted allergenicity to proteins and can initiate allergic reactions (2). To facilitate allergic asthma research, Chondrex, Inc. provides HDM extracts as clinically relevant allergens to induce mouse asthma models that mimic how asthmatic patients are sensitized with aeroallergens. In addition, Chondrex, Inc. also provide anti-HDM antibody ELISA kits to evaluate these mouse models. For more information about these products, please contact [support@chondrex.com](mailto:support@chondrex.com).

## General Protocols for Inducing Asthma in BALB/c Mice

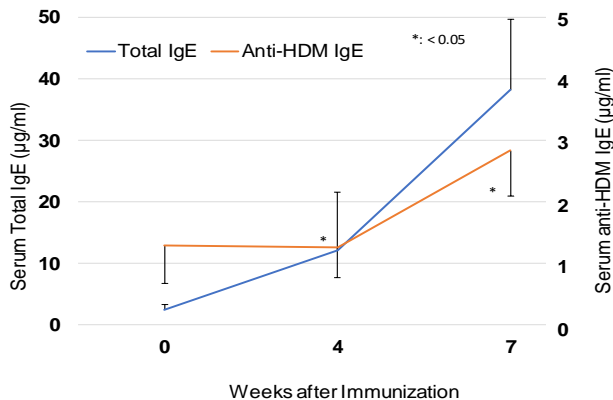
### 1. Acute Asthma Model



### 2. Chronic Asthma Model

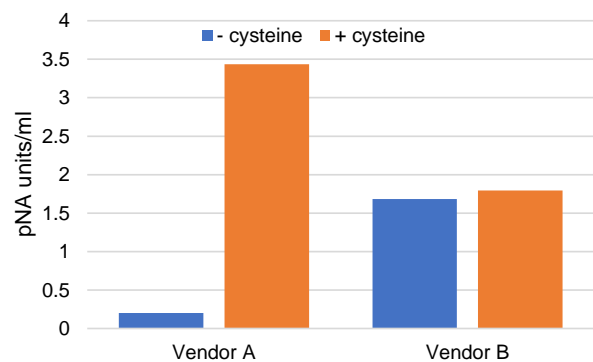


#### A Chronic Asthma Model



Six BALB/c mice received 150 µg HDM mixed with 0.2 mg Aluminum Adjuvant by weekly IP injections. Serum total IgE levels at weeks 4 and 7 were significantly higher than those at week 0 (blue). In addition, anti-HDM IgE levels were significantly higher at week 7 (orange) than they were at week 0 and 4.

#### Der p1 Associated Trypsin Activity in HDM



Trypsin activity in HDM from two vendors were compared. Vendor A's HDM showed high trypsin activity with cysteine activation, indicating that it contains high levels of cysteine proteinases, such as Der p1. On the other hand, cysteine treatment did not activate Vendor B's HDM, possibly due to interfering trypsin activity from other serine proteinases, such as Der p3.



# Allergic Diseases: HDM-Induced Asthma



## House Dust Mite Related Reagents\*

Products	Quantity	Catalog #
House Dust Mite Extract from <i>D. pteronyssinus</i>	0.6 mg, lyophilized	3033
House Dust Mite Extract from <i>D. farinae</i>	0.6 mg, lyophilized	3040
House Dust Mite Extract from <i>D. pteronyssinus</i> - Biotinylated	0.1 mg, lyophilized	3045
House Dust Mite Extract from <i>D. farinae</i> - Biotinylated	0.1 mg, lyophilized	3044
Lipopolysaccharide (LPS) from <i>E. coli</i> O111:B4	0.5 mg/ml x 5 ml	9028

\*Individual monoclonal antibodies against HDM are also available. Please visit [www.chondrex.com](http://www.chondrex.com) for more information.

## Mouse Anti-HDM Antibody and Total Immunoglobulin ELISA Kits

Products	Catalog # Anti-HDM <i>D. pteronyssinus</i>	Catalog # Anti-HDM <i>D. farinae</i>	Catalog # Anti-Der p1	Catalog # Anti-Der p2	Catalog # Total Immunoglobulin
IgG Antibody Assay Kit	3030	3072	3047	3065	3023
IgG1 Antibody Assay Kit	3034	3073	3048	Coming soon!	3025
IgG2b Antibody Assay Kit	3035	3074	Coming soon!	3066	3027
IgM Antibody Assay Kit	3036	3076	3049	3068	3024
IgE Antibody Assay Kit	3037	3081	Coming soon!	Coming soon!	3005
IgG2a Antibody Assay Kit	3038	Coming soon!	Coming soon!	3067	3026
IgG3 Antibody Assay Kit	3039	3075	3064	Coming soon!	3028
IgA Antibody Assay Kit	3046	Coming soon!	Coming soon!	Coming soon!	3019

## House Dust Mite Allergen Detection ELISA Kit

Product	Catalog #
House Dust Mite (Der p10) Detection Kit	6031
House Dust Mite (Der p1) Detection Kit	6044

## Trypsin Activity Assay Kit

Product	Catalog #
Trypsin Activity Assay Kit	3043

## References

1. L. Gregory, C. Lloyd. Orchestrating house dust mite-associated allergy in the lung. *Trends in Immunology* **32.9**: 402-411 (2011).
2. M. Reithofer, B. Jahn-Schmid, Allergens with Protease Activity from House Dust Mites. *IJMS*. **18**, 1368–9 (2017).