

# FreshStart vs. Allergens

**FreshStart's Advanced Oxidation Process<sup>1</sup> (AOP) eliminates the effects of allergens, surface mold, viruses, bacteria, pet dander, dust mites, and odors at the molecular level, resulting in a healthier home.**

Our patented equipment placed in any interior, produces a combination of three percent hydrogen peroxide gas and ultra-violet light (UV) creating hydroxyl radicals – natural, atmospheric decontaminants. Hydroxyl radicals react with pollutants, breaks their molecular structure, renders them inert, and turns them into harmless oxygen and inert carbon, producing a thoroughly decontaminated, healthier interior.

## Independent Study – Allergy Antigen Test Results

The purpose of this experiment was to provide analytical data that the FreshStart Process is effective in the denaturing of allergen proteins, therefore, deactivating their ability to bond with IgE antibodies, reducing the release of histamines in the human body. The release of histamines is the cause of the majority of allergic reactions in humans.

The process experiment was performed inside a plastic containment constructed of polyvinyl chloride (PVC) piping and six mil thick polyethylene sheeting. The size of the containment used was 50 inches (") wide x 120" long x 80" tall (totaling approximately 280 cubic feet).

## Project

This extract project was performed on September 25<sup>th</sup> and 27<sup>th</sup>, 2012. It involved the generation of twelve (12) samples plus blanks using two different media types; sterile gauze and Whatman filters. Three of each media type were spiked and not subjected to the process and three of each media type were spiked and subjected to the process. A volume of 2.5 milliliters (ml) of known concentrations of dust mite extract and cat and dog extract were used to spike the media in glass bowls on September 12, 2012.

On September 27<sup>th</sup>, 2012, after the media dried, six untreated samples (three per media type) were collected. The remaining six samples were suspended inside the containment and exposed to the process for approximately three hours.

Once the process was complete, the treated samples were collected. The samples were submitted to *InBio* via chain-of-custody (COC) procedures for analysis of the allergens using the Multiplex ARray for Indoor Allergens (MARIA™).

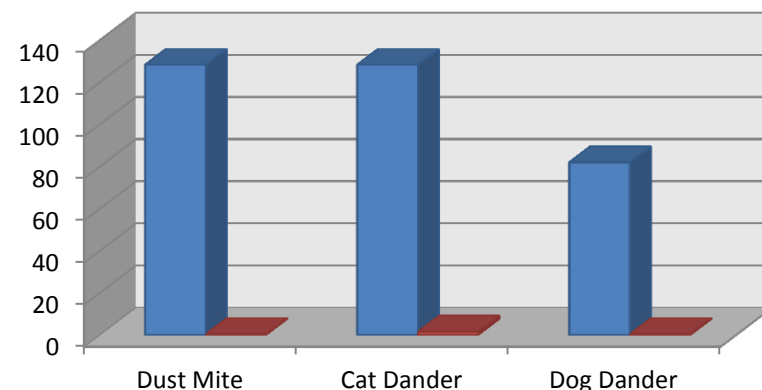
# Results

Allergen	Avg. Starting Concentration (ng/sample Series 1)	Avg. Ending Concentration (ng/sample Series 2)	Avg. Inactivation Percentage
Dust Mite	128.34	0.54	>99.61
Cat Dander	128.34	0.11	99.92
Dog Dander	82.06	0.54	>99.37

ng = nanograms

**The results of the extract project identified that significant inactivation of all allergens was achieved. The process was able to essentially inactivate all mite and dog allergen in the sample and over 99% of the cat allergen.**

The primary intent of this experiment was to provide analytical data regarding the level of efficacy of the process in deactivating various allergens. This has been demonstrated. As previously stated and summarized in the below graph, the analytical data document that after treatment by the process, various concentrations of cat, dog, and mite allergen were significantly reduced or reduced to undetectable levels.



<sup>1</sup>Patent Process No. US 7,407,624 B2, using Patent Pending equipment App. No. 134/262,059, marketed as *FreshStart* by *Prompt Care*®

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