

Procedures and Precautions for Immunotherapy

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Allergy Immunotherapy

- Desensitization to allergens
- Relieves or eliminates allergic symptoms
- Reducing the amount of medication given
- Improves the patient's quality of life.
- The only treatment that can change the natural pathways of allergic diseases

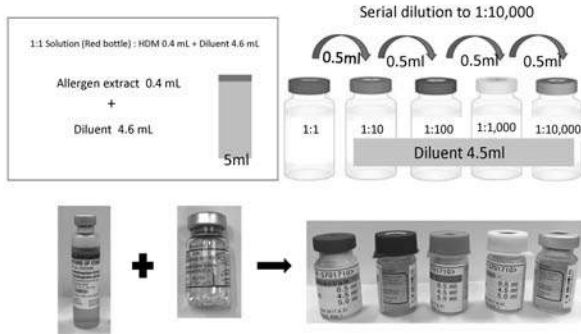


Disease Indications for AIT

- Allergic rhinitis
- Allergic conjunctivitis
- Allergic asthma
- Atopic dermatitis (aeroallergen)
- IgE-mediated food allergy
- Hymenoptera venom allergy



How to make Immunotherapy reagent



Allergen immunotherapy extract preparation guidelines

Bacteriostasis:

Allergen extract dilutions must be bacteriostatic, meaning that they must contain Phenol concentrations of at least 0.25%, or if the phenol concentration is less than 0.25%, the extract must have a glycerin concentration of at least 20%.



	Function	Disadvantages
Glycerin	<ul style="list-style-type: none"> • ≥ 50% : preservatives (inhibit microbial growth) • protective effect against extract potency loss 	<ul style="list-style-type: none"> • < 50%: must add phenol • ↑ → Injection discomfort ↑ (total dose < 0.05 mL)
Phenol	<ul style="list-style-type: none"> • preservatives 	<ul style="list-style-type: none"> • Deleterious
HSA	<ul style="list-style-type: none"> • Incomplete prevention of potency loss-glass vial adherence. • Protect against the deleterious effect of phenol 	<ul style="list-style-type: none"> • Incomplete prevention of potency loss
Saline	<ul style="list-style-type: none"> • inhibit bacterial and fungal growth 	<ul style="list-style-type: none"> • not as effective as glycerin or HSA

- Sterile Buffered Saline with Phenol (BSP): 0.5% sodium chloride, 0.275% sodium bicarbonate, and 0.4% phenol.
- Sterile Glycerin Solution (GLY): 50% glycerin.
- Sterile Albumin Saline with Phenol (ABS): 0.9% sodium chloride, 0.03% albumin (human), and 0.4% phenol



Allergen immunotherapy extract preparation guidelines

Aseptic technique:

- The physician must designate a specific site, such as a countertop, in an area of the practice facility where personnel traffic is restricted and activities that might contribute to microbial Contamination are prohibited (eg, eating, food preparation, and placement of used diagnostic devices and materials and soiled linens).
- The extract preparation area must be sanitized with 70% isopropanol that does not contain added ingredients, such as dyes and glycerin.



J Allergy Clin Immunol. 2011;127(1 suppl):S1-S55.

Allergen immunotherapy extract preparation guidelines

Aseptic technique:

- Before beginning compounding activities, personnel perform a thorough hand-cleansing procedure by removing debris from under fingernails followed by vigorous hand and arm washing to the elbows for at least 30 seconds with either nonantimicrobial or antimicrobial soap and water.



J Allergy Clin Immunol. 2011;127(1 suppl):S1-S55

Allergen immunotherapy extract preparation guidelines

Aseptic technique:

1. Compounding personnel wear hair covers, facial hair covers, gowns, and face masks.
2. Compounding personnel wear powder-free sterile gloves that are compatible with sterile 70% isopropyl alcohol before beginning compounding manipulations.
3. Compounding personnel disinfect their gloves intermittently with sterile 70% isopropyl alcohol when preparing multiple allergenic extract as CSPs.



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Allergen immunotherapy extract preparation guidelines

Aseptic technique:

- Stoppers of vials to be needle punctured must be sanitized with isopropanol.
- Direct contact contamination of sterile needles, syringes, and other drug-administration devices and sites on containers of manufactured sterile drug products from which drugs are administered must be avoided.
- Sources of direct contact contamination include but are not limited to touch by personnel and nonsterile objects, human secretions, blood, and exposure to other nonsterile materials.
- After mixing is complete, visual inspection is to be performed for physical integrity of the vial.



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Allergen immunotherapy extract preparation guidelines

Expire date:

- *For 12 months
- The expiration date of any dilution should not exceed the expiration date of the earliest expiring constituent that is added to the mixture

Labeling.

Patient's name, and the beyond-use date of the vial

Mixing log

Patient's name, extract used for mixing, mixing date, and expiration date and lot numbers.



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Allergen immunotherapy extract preparation guidelines

Storage:

- Extracts should be stored at 4°C to reduce the rate of potency loss.
- Storage must be in a designated refrigerator for medications and not used for food or specimens.



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Injection

-Subcutaneous

1:1000		1:100		1:10		1:1		Concitate
0.05 ml	0.05 ml	0.05 ml	0.05 ml	0.05 ml	0.05 ml	0.05 ml	0.05 ml	
0.10 ml	0.10 ml	0.10 ml	0.10 ml	0.10 ml	0.10 ml	0.10 ml	0.10 ml	
0.30 ml	0.30 ml	0.30 ml	0.30 ml	0.30 ml	0.30 ml	0.30 ml	0.30 ml	
0.50 ml	0.50 ml	0.50 ml	0.50 ml	0.50 ml	0.50 ml	0.50 ml	0.50 ml	
		0.40 ml	0.40 ml	0.25 ml				
		0.50 ml	0.50 ml	0.30 ml				
				0.15 ml				
				0.40 ml				
				0.45 ml				
				0.50 ml				

Adverse Reactions

- Local Reaction
 - Wheal and flare with pruritus
 - Pain, tenderness, and hard swelling
- Systemic reactions
 - Urticaria, angioedema
 - Increased respiratory symptoms
 - Anaphylaxis
- Delayed reaction

Recommended equipment and medications to treat immunotherapy systemic reactions

- stethoscope and sphygmomanometer
- tourniquet, syringes, hypodermic needles, and intravenous catheters (eg, 14-18 gauge)
- aqueous epinephrine HCL 1:1,000 wt/vol
- equipment to administer oxygen by mask
- intravenous fluid set-up
- antihistamine for injection
(second-line agents for anaphylaxis, but H1 and H2 antihistamines work better together than either one alone)
- corticosteroids for intramuscular or intravenous injection (second-line agents for anaphylaxis)
- equipment to maintain an airway appropriate for the supervising physician's expertise and skill
- glucagon kit available for patients receiving b-blockers.

