

An abstract graphic on the left side of the slide. It features a dark blue background filled with numerous overlapping circles of various colors, including yellow, orange, green, and blue. The circles vary in size and opacity, creating a bokeh-like effect. The graphic is separated from the text area by a white, torn-paper-like border.

# **Sublingual Immunotherapy for Food Allergy: Protocols**

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# Extract-Based SLIT

- Commercial extracts range in protein concentration from 2250-6000 mcg/mL
- Serial dilutions can be prepared in 50% glycerinated saline
- Allows for a high degree of precision in dosing
- Dilutions remain stable for months
- Cost is comparatively high at stronger dilutions
- Most studies have focused on extract-based SLIT

# Extract- Based SLIT

## Escalation Protocols

Table 1: Sample Food SLIT Dose Escalation Protocol, Using Commercial Extracts

Dose #	Vial Dilution (v/v)	Concentration (w/v)	Number of Pumps (50 mcl per pump)	Peanut Protein per Dose (mcg)	Egg White Protein per Dose (mcg)	Cow's Milk Protein per Dose (mcg)	Cashew Protein per Dose (mcg)
1	1:1,000	1:20,000	1	0.25	0.1125	0.2	0.3
2	1:1,000	1:20,000	2	0.5	0.225	0.4	0.6
3	1:1,000	1:20,000	3	0.75	0.3375	0.6	0.9
4	1:1,000	1:20,000	4	1	0.45	0.8	1.2
5	1:100	1:2,000	1	2.5	1.125	2	3
6	1:100	1:2,000	2	5	2.25	4	6
7	1:100	1:2,000	3	7.5	3.375	6	9
8	1:100	1:2,000	4	10	4.5	8	12
9	1:10	1:200	1	25	11.25	20	30
10	1:10	1:200	2	50	22.5	40	60
11	1:10	1:200	3	75	33.75	60	90
12	1:10	1:200	4	100	45	80	120
13	1:5	1:100	3	150	67.5	120	180
14	1:5	1:100	4	200	90	160	240
15	1:5	1:100	5	250	112.5	200	300
16	1:2.5	1:50	3	300	135	240	360
17	1:2.5	1:50	4	400	180	320	480
18	1:2.5	1:50	5	500	225	400	600
19	1:1 (undiluted)	1:20	2	500	225	400	600
20	1:1 (undiluted)	1:20	3	750	337.5	600	900
21	1:1 (undiluted)	1:20	4	1,000	450	800	1200

1:1 v/v solution is undiluted Greer (Peanut, Egg White, Cow's Milk, or Cashew) Extract, 1:20 w/v.

Concentration of peanut protein in undiluted extract is estimated to be 5000mcg/ml, of which 6% is conservatively estimated to be Ara h 2.

Concentration of egg white protein in undiluted extract is estimated to be 2250 mcg/ml.

Concentration of milk protein in undiluted extract is estimated to be 4000 mcg/ml, of which 80-90% is conservatively estimated to be casein.

Concentration of cashew protein in undiluted extract is estimated to be 6000mcg/ml.

Dilutions are made in 50% Glycerinated Saline (Greer or ALK).

Metered dose dropper vials supplied by Edge Pharmaceuticals. Each pump delivers 50 microliters of liquid (after priming with 6 pumps). Each vial holds 15 ml of liquid.

# Food-Based SLIT

- An accessible and economical way to prepare sublingual immunotherapy for food allergens
- Generally diluted with distilled water
- Can achieve high concentrations
- However, must be remixed frequently to maintain safety and integrity



# Food- Based SLIT

## Maintenance Recipes

Table 2: Creating Food Allergy SLIT Maintenance Vials from OIT Solutions/Suspensions

Food Allergen	Source	Amount	Distilled Water	Flavoring	Maintenance dose (per 400 mcl)
Almond	Barney Butter Almond Butter (smooth)	1/8 tsp	to yield 25 ml total volume	Kool-Aid ½ tsp	2 mg
Cashew	<u>Artisana</u> Raw Organic Cashew Butter	1/8 tsp	to yield 25 ml total volume	Kool-Aid ½ tsp	2 mg
Chickpea	Bob's Red Mill Garbanzo Bean Flour	625 mg	to yield 25 ml total volume	Kool-Aid ½ tsp	2 mg
Coconut	Bob's Red Mill Organic Coconut Flour	3/8 tsp (875 mg)	to yield 25 ml total volume	Kool-Aid ½ tsp	2 mg
Egg White	All Whites 100% or <u>Eggland's Best</u> Liquid Egg White	1.1 ml	23.9 ml	Kool-Aid ½ tsp	2 mg
Hazelnut	Elmhurst Hazelnut Milk	15 ml	10 ml	Chocolate or Strawberry Syrup	2 mg
Milk	Organic or Irradiated Whole Milk	3.75 ml	21.25 ml	Chocolate or Strawberry Syrup	2 mg
Peanut	Peanut Butter (Peanut Butter & Co., Santa Cruz Organic, Jif)	1/8 tsp	to yield 25 ml total volume	Kool-Aid ½ tsp	2 mg
Rye	Nuts.com Organic Dark Rye Flour	938 mg	to yield 25 ml total volume	Kool-Aid ½ tsp	2 mg
Sesame	Max Sesame Tahini Spread	1/8 tsp	to yield 25 ml total volume	Kool-Aid ½ tsp	1.7 mg
Soy	Silk Original Soy Milk	3.75 ml	21.25 ml	Chocolate or Strawberry Syrup	2 mg
Sunflower	<u>Sunbutter</u>	567 mg	to yield 25 ml total volume	Kool-Aid ½ tsp	2 mg
Walnut	Fastachi.com Raw Walnut Butter	1/8 tsp	to yield 25 ml total volume	Kool-Aid ½ tsp	1.7 mg
Wheat	Druids Grove Vital Wheat Gluten Flour	178 mg	to yield 25 ml total volume	Kool-Aid ½ tsp	2 mg

Adapted from: Gendo K, Orden T, Tevrizian A, Jacobs J, Mozelsio N, Gilbert K, Lodewick M. Food Sublingual Immunotherapy Using Consistent, Cheaper and Customizable Oral Immunotherapy Solutions. J Asthma Allergy. 2021 May 5;14:467-470. doi: 10.2147/JAA.S307853. PMID: 33981149; PMCID: PMC8109147.

# Transition to High-Dose SLIT vs. OIT

- 6 month extract-based build up
  - Option A: Transition to food-based SLIT for high-dose, long-term treatment
  - Option B: Transition to Oral Immunotherapy
    - Truncated rapid desensitization/initial dose escalation → Standard OIT updose protocol
    - Or... skip rapid desensitization and go directly into OIT