**Supplemental Table 1: Characteristics of the development cohort**

|  |  |
| --- | --- |
|  | EoE cases  (n = 24) |
| Mean age (years ± SD) | 38.2 ± 10.6 |
| % Male (n, %) | 6 (25) |
| % White (n, %) | 23 (96) |
| Symptoms (n, %) |  |
| Dysphagia | 22 (92) |
| Heartburn | 12 (50) |
| Chest pain | 4 (17) |
| Abdominal pain | 5 (21) |
| Nausea/vomiting | 4 (17) |
| Any atopy (n, %) | 18 (75) |
| Asthma | 5 (21) |
| Seasonal allergies/allergic rhinitis | 14 (58) |
| Food allergies | 13 (54) |
| Dietary responders (n, %) | 15 (63) |
| Previously identified food triggers (n, %) |  |
| Dairy | 11 (73) |
| Wheat | 5 (33) |
| Egg | 8 (53) |
| Soy | 4 (27) |
| Peanut | 3 (20) |

**Supplemental Table 2: Change in assays between baseline and post-dietary treatment**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Overall median % change in all compliant subjects  (n=19) | Median % change in compliant subjects | | |
|  |  | Histologic  non-responders‡  (n=13) | Histologic responders‡  (n=6) | p value# |
| ***CD4+ T cell proliferation****\** | |  |  |  |
| Dairy | -15.6 (-49.6-88.0) | -14.4 (-50.7-89.6) | -44.9 (-46.3-86.4) | 0.93 |
| Wheat | -38.4 (-78.8-133.7) | -6.6 (-45.1-158.6) | -90.6 (-90.7- -83.9) | 0.10 |
| Egg | 22.3 (-64.3-257.2) | 53.3 (-64.2-269.1) | -45.6 (-76.3-115.7) | 0.60 |
| Soy | -16.3 (-72.5-329.6) | -6.4 (-72.5-332.0) | -28.3 (-72.6-105.1) | 0.85 |
| Peanut | 4.48 (-59.1-131.1) | 36.4 (-56.7-202.5) | -44.5 (-72.0-85.4) | 0.42 |
|  |  |  |  |  |
| ***Tissue IgG4****†* |  |  |  |  |
| Dairy | -28.9 (-88.9-0) | -36.7 (-83.8-0) | -26.6 (-97.7-0) | 0.94 |
| Wheat | -20.5 (-100-20.0) | -69.6 (-100-1.4) | 0 (-47.7-20.0) | 0.58 |
| Egg | -21.3 (-81.7-0) | -21.3 (-81.7-0) | -19.0 (-70.9-0) | 0.65 |
| Soy | 0 (-84.8-48.4) | 0 (-84.8-65.3) | 0 (-100-40.7) | 0.83 |
| Peanut | 0 (-79.8-100) | 0 (-61.6-305.9) | -42.5 (-96.9-100) | 0.27 |

\* Measured as the percent of stimulated CD4+ CSFE-low cells

† Measured as the food-specific IgG4 percent of the total IgG4

‡ Histologic response defined as a post-treatment peak eosinophil count of < 15 eos/hpf

# Medians compared with the Wilcoxon Rank-sum test

**Supplemental Figure 1.** Distribution of individualized diets. A total of 12 different diets were prescribed to the 22 patients who started treatment in the second phase of the study.

