

## 1 Supplemental Tables

### 2 Supplemental Table 1: CoFAR Grading System for Allergic Reactions

Grade 1 - Mild	Grade 2 - Moderate	Grade 3 – Severe	Grade 4 - Life threatening	Grade 5 - Death
Transient or mild discomforts (<48 hours), no or minimal medical intervention/therapy required. These symptoms may include pruritus, swelling or rash, abdominal discomfort or other transient symptoms.	Symptoms that produce mild to moderate limitation in activity some assistance may be needed; no or minimal intervention/therapy is required. Hospitalization is possible. These symptoms may include persistent hives, wheezing without dyspnea, abdominal discomfort/ increased vomiting or other symptoms	Marked limitation in activity, some assistance usually required; medical intervention/therapy required, hospitalization is possible. Symptoms may include Bronchospasm with dyspnea, severe abdominal pain, throat tightness with hoarseness, transient hypotension among others. parenteral medication(s) are usually indicated.	Extreme limitation in activity, significant assistance required; significant medical/therapy. Intervention is required; hospitalization is probable. Symptoms may include persistent hypotension and/or hypoxia with resultant decreased level of consciousness associated with collapse and/or incontinence or other life threatening symptoms.	Death

#### 4 Supplemental Table 2: Egg White Oral Food Challenge Successfully Consumed Dose (mg) and Change from Baseline by Treatment

#### 5 Group Analysis Population

Time Point	BE-R (N=27)	OIT-R (N=23)	OIT-A (N=39)	Total (N=89)	P-value <sup>1</sup> BE-R vs OIT-R	P-value <sup>1</sup> OIT-R vs OIT-A
<b>Baseline – n</b>	27	23	N/A	50	0.8798	N/A
Median (IQR)	144.0 (44.0, 444.0)	144.0 (44.0, 444.0)	-	144.0 (44.0, 444.0)		
Min, Max	4.0, 444.0	1.0, 444.0	-	1.0, 444.0		
<b>Year 1 - n</b>	23	20	34	77	0.0002	0.0898
Median (IQR)	1444.0 (444.0, 4444.0)	7444.0 (4444.0, 7444.0)	4444.0 (1444.0, 7444.0)	4444.0 (1444.0, 7444.0)		
Min, Max	14.0, 7444.0	1444.0, 7444.0	0, 7444.0	0, 7444.0		
<b>Year 1 Change from Baseline – n</b>	23	20	N/A	43	0.0001	N/A
Median (IQR)	1300.0 (400.0, 4000.0)	7000.0 (4300.0, 7400.0)	-	4300.0 (1300.0, 7000.0)		
Min, Max	-130.0, 7400.0	1300.0, 7443.0	-	-130.0, 7443.0		
<b>Year 2 Desensitization – n</b>	19	20	33	72	<0.0001	0.0496
Median (IQR)	1444.0 (444.0, 4444.0)	7444.0 (7444.0, 7444.0)	7444.0 (4444.0, 7444.0)	7444.0 (1444.0, 7444.0)		
Min, Max	44.0, 7444.0	4444.0, 7444.0	144.0, 7444.0	44.0, 7444.0		
<b>Year 2D Change from Baseline<sup>2</sup> – n</b>	19	20	N/A	39	0.0002	N/A
Median (IQR)	1300.0 (100.0, 4400.0)	7350.0 (7000.0, 7400.0)	-	7000.0 (1300.0, 7400.0)		
Min, Max	-300.0, 7430.0	4000.0, 7443.0	-	-300.0, 7443.0		
<b>Year 2 Sustained Unresponsive – n</b>	4	18	21	43	0.5383	0.4006
Median (IQR)	7444.0 (4444.0, 7444.0)	7444.0 (1444.0, 7444.0)	4444.0 (4444.0, 7444.0)	4444.0 (1444.0, 7444.0)		
Min, Max	1444.0, 7444.0	444.0, 7444.0	14.0, 7444.0	14.0, 7444.0		
<b>Year 2SU Change from Baseline – n</b>	4	18	N/A	22	0.6101	N/A
Median (IQR)	7200.0 (4000.0, 7415.0)	7000.0 (1300.0, 7400.0)	-	7000.0 (1300.0, 7400.0)		
Min, Max	1000.0, 7430.0	400.0, 7430.0	-	400.0, 7430.0		

7 <sup>1</sup>The Wilcoxon Rank Sum Test was used.  
8 <sup>2</sup>Spearman correlation between the Year 2 Desensitization OFC SCD Change from Baseline and age at enrollment:(BE-R: R=0.08, p=0.7502; OIT-R: R=-0.08,  
9 p=0.7371; OIT-A: R=N/A, p=N/A; All BE-R and OIT-R participants: R=0.20, p=0.2285).  
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11 **Supplemental Table 3: Summary of Dosing Compliance by Treatment Group**

<b>Doses<sup>1</sup></b>	<b>BE-R (N=27)</b>	<b>OIT-R (N=23)</b>	<b>OIT-A (N=39)</b>	<b>Total (N=89)</b>
Doses expected <sup>2</sup> – n	16665	15659	24765	57089
Doses/percent administered – n (%)	14958 (89.8%)	14884 (95.1%)	23620 (95.4%)	53462 (93.6%)
Doses/percent not administered – n (%)	1707 (10.2%)	775 (4.9%)	1145 (4.6%)	3627 (6.4%)
Difference between actual and expected	1707	775	1145	3627

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13 <sup>1</sup>Overall 269 doses (BE-R=211, OIT-R=55, OIT-A=3) counted as administered were from days where dosing  
 14 symptom logs for the participants were not available.

15 <sup>2</sup>Expected number of doses on the first day of dosing was 9 doses for both the OIT-R and OIT-A groups.

16 **Supplemental Table 4: Number of Doses with Dosing Symptoms by Treatment Group Pre- and Post- Year 1 DBPCFC**

Dosing Symptom	BE-R		OIT-R		OIT-A		Total	
	Pre-Year 1 (N=7923)	Post-Year 1 (N=6824)	Pre-Year 1 (N=7923)	Post-Year 1 (N=6906)	Pre-Year 1 (N=12305)	Post-Year 1 (N=11312)	Pre-Year 1 (N=28151)	Post-Year 1 (N=25042)
Any reaction – n (%)	351 (4.4)	36 (0.5)	951 (12.0)	54 (0.8)	2681 (21.8)	704 (6.2)	3983 (14.1)	794 (3.2)
Symptom free doses – n (%)	7572 (95.6)	6788 (99.5)	6972 (88.0)	6852 (99.2)	9624 (78.2)	10608 (93.8)	24168 (85.9)	24248 (96.8)
Oropharyngeal symptoms – n (%)	247 (3.1)	22 (0.3)	486 (6.1)	1 (<0.1)	847 (6.9)	48 (0.4)	1580 (5.6)	71 (0.3)
Symptoms other than oropharyngeal – n (%)	169 (2.1)	15 (0.2)	653 (8.2)	53 (0.8)	2391 (19.4)	683 (6.0)	3213 (11.4)	751 (3.0)
Mild – n (%)	168 (2.1)	15 (0.2)	648 (8.2)	52 (0.8)	2372 (19.3)	674 (6.0)	3188 (11.3)	741 (3.0)
Moderate – n (%)	2 (<0.1)	0 (0.0)	8 (0.1)	1 (<0.1)	43 (0.3)	15 (0.1)	53 (0.2)	16 (0.1)
Severe – n (%)	0 (0.0)	0 (0.0)	1 (<0.1)	0 (0.0)	2 (<0.1)	0 (0.0)	3 (<0.1)	0 (0.0)
Skin – n (%)	67 (0.8)	5 (0.1)	117 (1.5)	7 (0.1)	185 (1.5)	235 (2.1)	369 (1.3)	247 (1.0)
GI – n (%)	37 (0.5)	8 (0.1)	237 (3.0)	28 (0.4)	1766 (14.4)	327 (2.9)	2040 (7.2)	363 (1.4)
Respiratory – n (%)	71 (0.9)	2 (<0.1)	173 (2.2)	7 (0.1)	582 (4.7)	263 (2.3)	826 (2.9)	272 (1.1)
Symptoms > 0.5 hours – n (%)	66 (0.8)	12 (0.2)	312 (3.9)	23 (0.3)	907 (7.4)	392 (3.5)	1285 (4.6)	427 (1.7)
Treated – n (%)	85 (1.1)	23 (0.3)	94 (1.2)	11 (0.2)	646 (5.2)	302 (2.7)	825 (2.9)	336 (1.3)
Treated with oral antihistamines – n (%)	85 (1.1)	23 (0.3)	89 (1.1)	11 (0.2)	639 (5.2)	300 (2.7)	813 (2.9)	334 (1.3)
Treated with epinephrine – n (%)	0 (0.0)	0 (0.0)	2 (<0.1)	0 (0.0)	6 (<0.1)	1 (<0.1)	8 (<0.1)	1 (<0.1)

18 **Supplemental Table 5: Treatment Emergent Adverse Events**

Treatment Emergent Adverse Events <sup>1</sup>	BE-R (N=27)		OIT-R (N=23)		OIT-A (N=39)		Total (N=89)	
	Participants (%)	Events (n)	Participants (%)	Events (n)	Participants (%)	Events (n)	Participants (%)	Events (n)
Total TEAEs	24 (88.9)	141	22 (95.7)	181	29 (74.4)	192	75 (84.3)	514
Related to treatment	0 (0.0)	0	3 (13.0)	3	0 (0.0)	0	3 (3.4)	3
Infections and infestations	21 (77.8)	86	20 (87.0)	71	26 (66.7)	91	67 (75.3)	248
Gastrointestinal disorders	10 (37.0)	10	13 (56.5)	29	14 (35.9)	25	37 (41.6)	64
Diarrhea	2 (7.4)	2	5 (21.7)	6	9 (23.1)	10	16 (18.0)	18
Vomiting	3 (11.1)	3	5 (21.7)	10	3 (7.7)	4	11 (12.4)	17
Abdominal pain upper	0 (0.0)	0	5 (21.7)	7	2 (5.1)	3	7 (7.9)	10
Abdominal pain	0 (0.0)	0	4 (17.4)	4	1 (2.6)	1	5 (5.6)	5
Abdominal discomfort	0 (0.0)	0	0 (0.0)	0	2 (5.1)	2	2 (2.2)	2
Respiratory, thoracic and mediastinal disorders	11 (40.7)	23	14 (60.9)	34	10 (25.6)	14	35 (39.3)	71
Cough	3 (11.1)	5	9 (39.1)	16	3 (7.7)	3	15 (16.9)	24
Asthma	6 (22.2)	8	4 (17.4)	4	4 (10.3)	5	14 (15.7)	17
Oropharyngeal pain	2 (7.4)	2	1 (4.3)	3	3 (7.7)	3	6 (6.7)	8
Nasal congestion	2 (7.4)	2	2 (8.7)	2	0 (0.0)	0	4 (4.5)	4
Wheezing	1 (3.7)	1	1 (4.3)	1	2 (5.1)	2	4 (4.5)	4
Rhinorrhea	1 (3.7)	1	2 (8.7)	2	0 (0.0)	0	3 (3.4)	3
General disorders and administration site conditions	7 (25.9)	8	8 (34.8)	16	15 (38.5)	27	30 (33.7)	51

Treatment Emergent Adverse Events <sup>1</sup>	BE-R (N=27)		OIT-R (N=23)		OIT-A (N=39)		Total (N=89)	
	Participants (%)	Events (n)	Participants (%)	Events (n)	Participants (%)	Events (n)	Participants (%)	Events (n)
Pyrexia	7 (25.9)	7	7 (30.4)	13	12 (30.8)	22	26 (29.2)	42
Skin and subcutaneous tissue disorders	6 (22.2)	7	6 (26.1)	11	7 (17.9)	14	19 (21.3)	32
Urticaria	0 (0.0)	0	1 (4.3)	5	1 (2.6)	3	2 (2.2)	8
Rash	2 (7.4)	2	3 (13.0)	3	1 (2.6)	1	6 (6.7)	6
Eczema	1 (3.7)	1	2 (8.7)	2	2 (5.1)	2	5 (5.6)	5
Dermatitis, atopic	3 (11.1)	3	0 (0.0)	0	0 (0.0)	0	3 (3.4)	3
Rash, generalized	0 (0.0)	0	0 (0.0)	0	1 (2.6)	1	1 (1.1)	1

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<sup>1</sup>TEAEs are summarized by MedDRA system organ class and preferred term

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	Sustained Unresponsiveness								
	Success (N=20)			Failure (N=69)			Total (N=89)		
	Yr3	Yr4	Yr5	Yr3	Yr4	Yr5	Yr3	Yr4	Yr5
Limited	3 (15.0)	8 (50.0)	5 (71.4)	28 (60.9)	23 (60.5)	9 (81.8)	31 (47.0)	31 (57.4)	14 (77.8)
Unlimited	17 (85.0)	8 (50.0)	2 (28.6)	15 (32.6)	13 (34.2)	2 (18.2)	32 (48.5)	21 (38.9)	4 (22.2)
None	0 (0.0)	0 (0.0)	0 (0.0)	3 (6.5)	2 (5.3)	0 (0.0)	3 (4.5)	2 (3.7)	0 (0.0)
<b>Reason for limited egg intake – n (%)</b>									
History of reactions	0 (0.0)	0 (0.0)	0 (0.0)	17 (37.0)	12 (31.6)	5 (45.5)	17 (25.8)	12 (22.2)	5 (27.8)
Anxiety or fear of reactions	1 (5.0)	2 (12.5)	1 (14.3)	5 (10.9)	2 (5.3)	0 (0.0)	6 (9.1)	4 (7.4)	1 (5.6)
Taste/preference	2 (10.0)	6 (37.5)	4 (57.1)	6 (13.0)	9 (23.7)	4 (36.4)	8 (12.1)	15 (27.8)	8 (44.4)
None	17 (85.0)	8 (50.0)	2 (28.6)	18 (39.1)	15 (39.5)	2 (18.2)	35 (53.0)	23 (42.6)	4 (22.2)
<b>Eating unbaked egg in diet – n (%)</b>									
No	1 (5.0)	4 (25.0)	2 (28.6)	35 (76.1)	27 (71.1)	6 (54.5)	36 (54.5)	31 (57.4)	8 (44.4)
Yes	19 (95.0)	12 (75.0)	5 (71.4)	11 (23.9)	11 (28.9)	5 (45.5)	30 (45.5)	23 (42.6)	10 (55.6)
<b>Frequency of eating unbaked egg – n (%)</b>									
Daily	5 (25.0)	0 (0.0)	0 (0.0)	2 (4.3)	0 (0.0)	0 (0.0)	7 (10.6)	0 (0.0)	0 (0.0)
Weekly	5 (25.0)	1 (6.3)	0 (0.0)	3 (6.5)	1 (2.6)	2 (18.2)	8 (12.1)	2 (3.7)	2 (11.1)
Several days/week	7 (35.0)	6 (37.5)	4 (57.1)	4 (8.7)	4 (10.5)	2 (18.2)	11 (16.7)	10 (18.5)	6 (33.3)
Monthly	2 (10.0)	4 (25.0)	0 (0.0)	1 (2.2)	4 (10.5)	1 (9.1)	3 (4.5)	8 (14.8)	1 (5.6)
Less than monthly	0 (0.0)	1 (6.3)	1 (14.3)	1 (2.2)	2 (5.3)	0 (0.0)	1 (1.5)	3 (5.6)	1 (5.6)
None	1 (5.0)	4 (25.0)	2 (28.6)	35 (76.1)	27 (71.1)	6 (54.5)	36 (54.5)	31 (57.4)	8 (44.4)

	Sustained Unresponsiveness								
	Success (N=20)			Failure (N=69)			Total (N=89)		
	Yr3	Yr4	Yr5	Yr3	Yr4	Yr5	Yr3	Yr4	Yr5
<b>Amount of unbaked egg eaten at one time – n (%)</b>									
A few bites	0 (0.0)	0 (0.0)	1 (14.3)	1 (2.2)	1 (2.6)	1 (9.1)	1 (1.5)	1 (1.9)	2 (11.1)
1/2 serving	3 (15.0)	2 (12.5)	1 (14.3)	2 (4.3)	2 (5.3)	0 (0.0)	5 (7.6)	4 (7.4)	1 (5.6)
Full serving	14 (70.0)	9 (56.3)	2 (28.6)	5 (10.9)	7 (18.4)	3 (27.3)	19 (28.8)	16 (29.6)	5 (27.8)
More than a full serving	2 (10.0)	1 (6.3)	1 (14.3)	3 (6.5)	1 (2.6)	1 (9.1)	5 (7.6)	2 (3.7)	2 (11.1)
None	1 (5.0)	4 (25.0)	2 (28.6)	35 (76.1)	27 (71.1)	6 (54.5)	36 (54.5)	31 (57.4)	8 (44.4)
<b>Eating baked egg in diet – n (%)</b>									
No	0 (0.0)	0 (0.0)	0 (0.0)	3 (6.5)	2 (5.3)	0 (0.0)	3 (4.5)	2 (3.7)	0 (0.0)
Yes	20 (100.0)	16 (100.0)	7 (100.0)	43 (93.5)	36 (94.7)	11 (100.0)	63 (95.5)	52 (96.3)	18 (100.0)
<b>Frequency of eating baked egg – n (%)</b>									
Daily	10 (50.0)	7 (43.8)	3 (42.9)	14 (30.4)	12 (31.6)	2 (18.2)	24 (36.4)	19 (35.2)	5 (27.8)
Weekly	2 (10.0)	1 (6.3)	1 (14.3)	4 (8.7)	5 (13.2)	2 (18.2)	6 (9.1)	6 (11.1)	3 (16.7)
Several days/week	7 (35.0)	8 (50.0)	3 (42.9)	22 (47.8)	17 (44.7)	7 (63.6)	29 (43.9)	25 (46.3)	10 (55.6)
Monthly	1 (5.0)	0 (0.0)	0 (0.0)	2 (4.3)	1 (2.6)	0 (0.0)	3 (4.5)	1 (1.9)	0 (0.0)
Less than monthly	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.2)	1 (2.6)	0 (0.0)	1 (1.5)	1 (1.9)	0 (0.0)
None	0 (0.0)	0 (0.0)	0 (0.0)	3 (6.5)	2 (5.3)	0 (0.0)	3 (4.5)	2 (3.7)	0 (0.0)
<b>Amount of baked egg eaten at one time – n (%)</b>									
A few bites	0 (0.0)	0 (0.0)	0 (0.0)	2 (4.3)	3 (7.9)	0 (0.0)	2 (3.0)	3 (5.6)	0 (0.0)

	Sustained Unresponsiveness								
	Success (N=20)			Failure (N=69)			Total (N=89)		
	Yr3	Yr4	Yr5	Yr3	Yr4	Yr5	Yr3	Yr4	Yr5
1/2 serving	1 (5.0)	3 (18.8)	1 (14.3)	4 (8.7)	2 (5.3)	2 (18.2)	5 (7.6)	5 (9.3)	3 (16.7)
Full serving	16 (80.0)	11 (68.8)	6 (85.7)	30 (65.2)	27 (71.1)	9 (81.8)	46 (69.7)	38 (70.4)	15 (83.3)
More than a full serving	3 (15.0)	2 (12.5)	0 (0.0)	6 (13.0)	2 (5.3)	0 (0.0)	9 (13.6)	4 (7.4)	0 (0.0)
Other	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.2)	2 (5.3)	0 (0.0)	1 (1.5)	2 (3.7)	0 (0.0)
None	0 (0.0)	0 (0.0)	0 (0.0)	3 (6.5)	2 (5.3)	0 (0.0)	3 (4.5)	2 (3.7)	0 (0.0)

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<sup>1</sup>Six participants completed LFQs at Year 2.5, Year 3, and Year 4 post-enrollment; the LFQs from Year 2.5 were collected in error and were not included in the analysis.

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25 **Supplemental Figures**

26 **Supplemental Figure 1: Ovomuroid-specific IgE by Treatment Group and Visit:** Solid black lines  
27 represent median values with the solid blue lines representing the interquartile range; dashed  
28 lines represent individual participants. Decreases were seen in ovomucoid IgE from baseline to  
29 year 2 in all groups. Changes from baseline were not significant at any time points between BE-  
30 R and OIT-R or OIT-R and OIT-A groups except at Week 12 where the change for OIT-A was  
31 significantly greater than OIT-R ( $p=0.0003$ ).

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33 **Supplemental Figure 2: Ovomuroid-specific IgG4 by Treatment Group and Visit:** Solid black  
34 lines represent median values with the solid blue lines representing the interquartile range;  
35 dashed lines represent individual participants. Significant increases were seen in OVM-sIgG4  
36 over time in BE-R versus OIT-R ( $p<0.0001$ ) and BE-R versus OIT-A ( $p<0.0001$ ). No significant  
37 differences were seen between OIT-R and OIT-A groups.

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39 **Supplemental Figure 3: Egg White Skin Prick Test Scores by Treatment Group and Visit:** Solid  
40 black lines represent median values with the solid blue lines representing the interquartile  
41 range; dashed lines represent individual participants. Overall decreases were seen in egg SPT  
42 scores from baseline to year 2 in all groups with no significant differences between BE-R and  
43 OIT-R or between OIT-R and OIT-A.

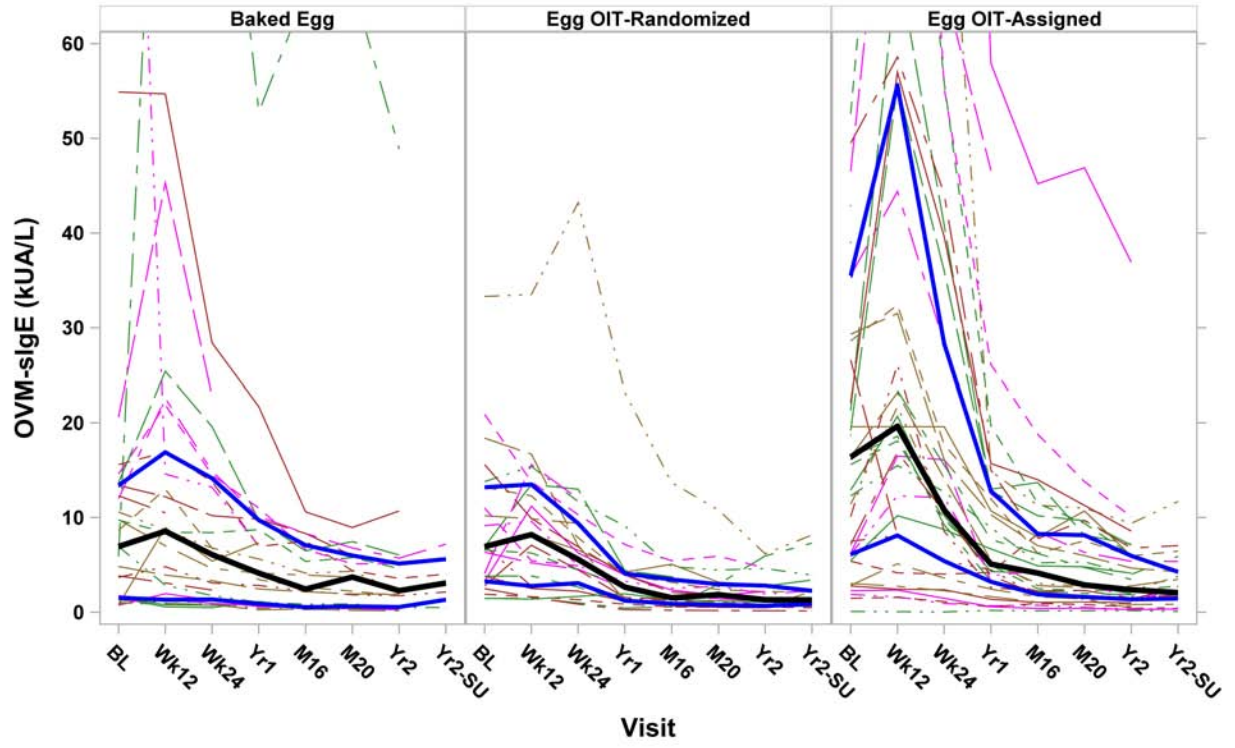
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45 **Supplemental Figure 4: Basophil Activation Test by Treatment Group and Visit:** Box-and-  
46 whisker plot with the line inside each box representing the median values and diamonds

47 representing the mean values. No significant differences were seen between treatment groups  
48 at any time points from baseline through year 2. A global treatment effect over time from  
49 baseline to year 2 approached significance between BE-R and OIT-R for the 0.1 µg egg stimulant  
50 ( $p=0.015$ ;  $p<0.01$  considered significant).

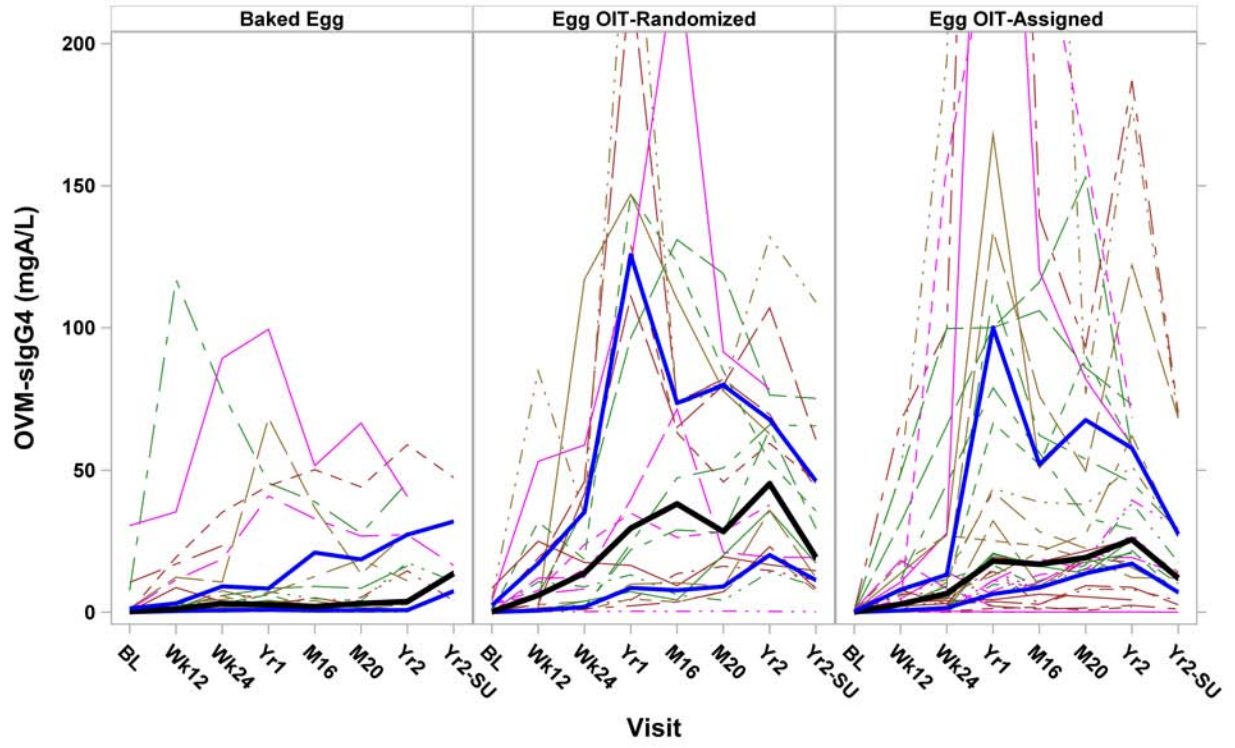
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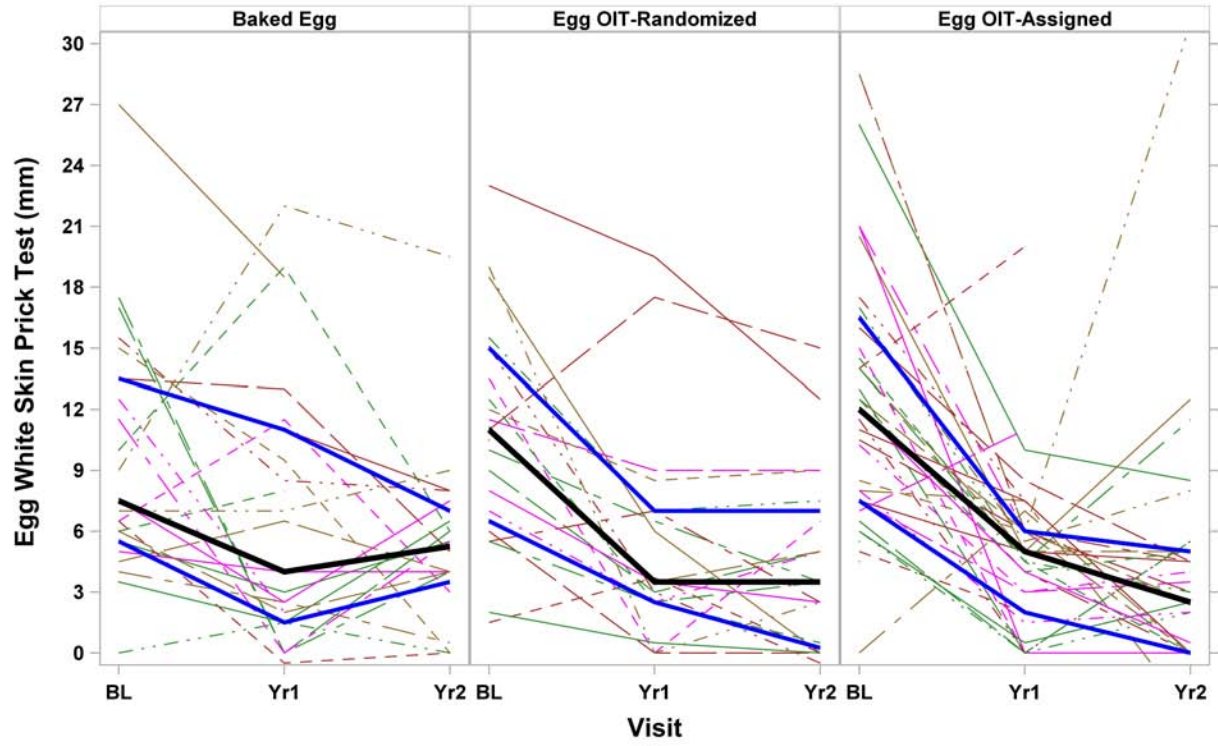
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