Efficacy and Safety of Long-Term Epicutaneous Immunotherapy in Peanut-Allergic Children in Multiple Phase 3 Clinical Trials

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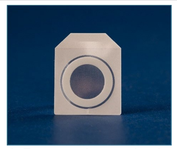
Rationale

- There are few options for peanut allergy (PA) treatment beyond avoidance,[1,2] and patients, caregivers, and physicians continue to express a desire for additional approaches
- VIASKIN®, a patch-based technology platform, is currently being investigated for the treatment of PA (**Figure 1**). This novel approach to epicutaneous immunotherapy involves the administration of a peanut patch containing 250 µg peanut protein (VP250) to intact skin to induce desensitization[3-7]
- Previously reported phase 3, multicenter, randomized, double-blind, placebo-controlled clinical trials, EPITOPE (NCT03211247) and PEPITES (NCT02636699), found that treatment with VP250 for 12 months was statistically superior to placebo in desensitizing peanut-allergic children aged 1 through 3 years (67% vs 33.5% treatment responders; *P*<0.001) and 4 through 11 years (35.3% vs 13.6% treatment responders; *P*<.001), respectively[3,7]
  - In a post-hoc analysis of PEPITES, a larger treatment effect was demonstrated in children aged 4 through 7 years who received VP250 vs placebo (40.0% vs 9.2% treatment responders; *P*<.001)[8]
  - In both studies, most treatment-emergent adverse events were mild or moderate application-site reactions[3,7]
- Maintenance treatment for allergen-specific immunotherapy has historically ranged from 3 to 5 years[9]; thus, it is important to assess long-term treatment with VP250

Figure 1. VP250 Patch



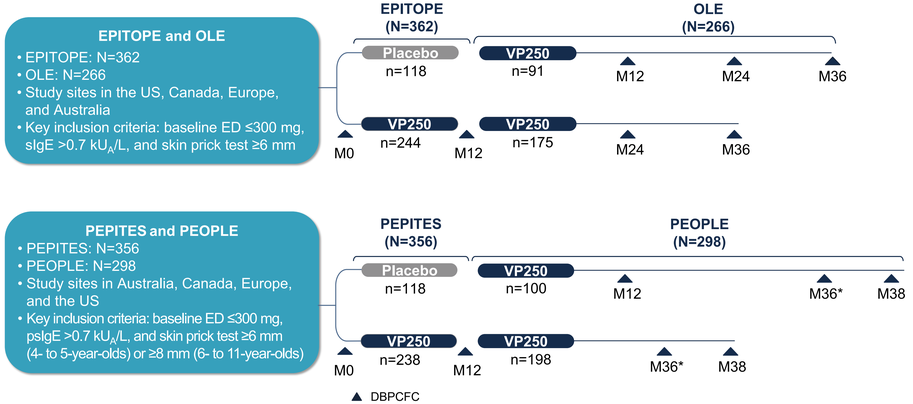
Objective

- To assess the long-term efficacy and safety of up to 36 months of treatment with VP250 in the optional open-label extension (OLE) studies, EPITOPE OLE and PEOPLE (OLE to PEPITES)

Methods

- After 12 months of VP250 or placebo, EPITOPE and PEPITES participants who completed the trial were eligible to enroll in EPITOPE OLE (aged 1 through 3 years at EPITOPE treatment initiation) or PEOPLE (aged 4 through 11 years at PEPITES treatment initiation), respectively, for up to 36 total months of treatment with VP250 (**Figure 2**)

Figure 2. Study Designs Diagram



DBPCFC, double-blind, placebo-controlled food challenge;
ED, eliciting dose; M, month; pslgE, peanut-specific immunoglobulin E.
*Optional OLE to receive VP250 treatment for an additional 2 years.

- Double-blind, placebo-controlled food challenges (DBPCFCs) were performed per the PRACTALL guidelines using a standardized, blinded food matrix and were ended when signs or symptoms sufficiently met prespecified stopping criteria at Month (M) 12 and M36 for both trials
- The eliciting dose (ED) was the dose at which allergic reaction signs or symptoms met the prespecified stopping criteria and ended the DBPCFC
- Key efficacy outcomes measured in the OLE were percentage of treatment responders, proportion of participants reaching an ED ≥1000 mg, and those completing the DBPCFC without meeting stopping criteria
- Safety was assessed throughout the studies according to frequency, severity, and relatedness of adverse events
- Results were analyzed for all participants entering the EPITOPE OLE and a subgroup of participants aged 4 through 7 years at study entry for PEOPLE

References: 1. Dantzer JA, Kim EH. *J Allergy Clin Immunol Pract.* 2024;12(3):546-552. 2. Capucilli P et al. *Ann Allergy Asthma Immunol.* 2020;124(5):459-465. 3. Fleischer DM et al. *JAMA.* 2019;321(10):946-955. 4. Fleischer DM et al. *J Allergy Clin Immunol.* 2020;146(4):863-874. 5. Pongracic JA et al. *J Allergy Clin Immunol Pract.* 2022;10(7):1864-1873.e10. 6. Wang J, Sampson HA. *Pediatr Allergy Immunol.* 2018;29(4):341-349. 7. Greenhawt M et al. *N Engl J Med.* 2023;388(19):1755-1766. 8. Fleischer DM et al. Presented at: Canadian Society of Allergy and Clinical Immunology (CSACI) 77th annual meeting; September 23-25, 2022; Quebec, Canada. 9. Moote W et al. *Allergy Asthma Clin Immunol.* 2018;14(suppl 2):53. 10. Pongracic JA et al. *J Allergy Clin Immunol Pract.* 2025;13(5):1190-1200.e3.

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Key Points

- Three years of treatment with VP250 in peanut-allergic children aged 1 through 7 years in the EPITOPE OLE and PEOPLE studies showed continued increases in treatment effect
- Consistent with previously published findings of VP250,[10] these studies showed a favorable safety profile consisting mainly of mild to moderate local application-site reactions[10]
- These data support the potential of VP250 as a long-term treatment option for peanut-allergic children aged 1 through 7 years, if approved

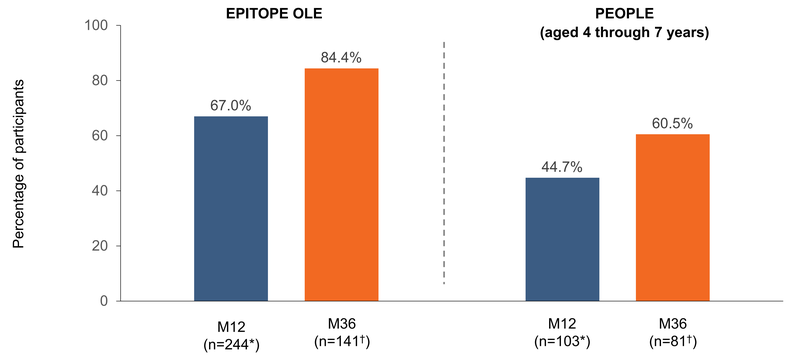
Results

- 362 participants were randomized in EPITOPE and of the 307 who completed, 266 (87%) enrolled in the OLE
- 356 participants were randomized in PEPITES and of the 320 who completed, 298 (93%) enrolled in the OLE; of those, 161 (54%) were aged 4 through 7 years at treatment initiation in PEPITES

Efficacy: VP250+VP250 Group (36 Months of Active Treatment)

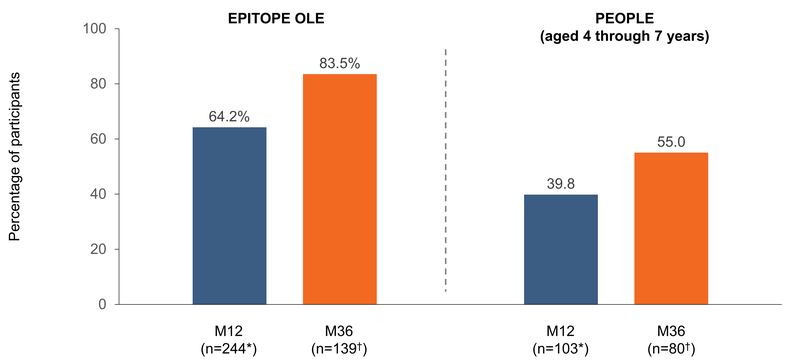
- Among participants who were randomized to active treatment in EPITOPE and PEPITES and entered the OLEs (VP250+VP250: n=149 and 103, respectively), increases in treatment effect were observed from M12 to M36 of VP250 treatment
  - 84.4% and 60.5% of participants were treatment responders in EPITOPE OLE and PEOPLE, respectively (**Figure 3**)
  - 83.5% and 55.0% of participants reached an ED ≥1000 mg in EPITOPE OLE and PEOPLE, respectively (**Figure 4**)
  - At M36 in EPITOPE OLE and PEOPLE, 68.2% and 23.8% of participants completed the DBPCFC without meeting stopping criteria (cumulative dose ≥3444 mg) vs 30.7% and 6.8% at M12, respectively

Figure 3. VP250+VP250 Treatment Responders Over Time



*EPITOPE or PEPITES participants. †Number of participants with non-missing food challenge endpoint.

Figure 4. VP250+VP250 ED ≥1000 mg Over Time



*EPITOPE or PEPITES participants. †Number of participants with non-missing food challenge endpoint.

Safety

- Almost all participants experienced treatment-emergent adverse events (TEAEs); however, there were low rates of treatment-related serious adverse events (**Tables 1 and 2**)
- Most participants experienced mild to moderate treatment-related local TEAEs

Table 1. EPITOPE OLE Safety Profile

	EPITOPE OLE: VP250+VP250	
	EPITOPE	OLE (Year 3 of active treatment)
Adverse event category, n (%)	(N=175)	(N=165)
TEAEs	175 (100)	145 (87.9)
Treatment-related TEAEs	175 (100)	113 (68.5)
Serious TEAEs	17 (9.7)	3 (1.8)
Treatment-related serious TEAEs	1 (0.6)	0
TEAEs leading to permanent study treatment discontinuation	0	0
Treatment-related local TEAEs	175 (100)	111 (67.3)
Severe treatment-related local TEAEs	37 (21.1)	3 (1.8)
Treatment-emergent local AESIs	40 (22.9)	14 (8.5)
Anaphylactic reaction	11 (6.3)	4 (2.4)
Treatment-related anaphylactic reaction	3 (1.7)	0
TEAEs leading to epinephrine use	16 (9.1)	10 (6.1)
Treatment-related TEAEs leading to epinephrine use	2 (1.1)	0

AESI, adverse event of special interest.

Table 2. PEOPLE Safety Profile

	PEOPLE 4-7: VP250+VP250	
	PEPITES	OLE (3 years of active treatment)
Adverse event category, n (%)	(N=125)	(N=103)
TEAEs	120 (96)	103 (100)
Treatment-related TEAEs	75 (60)	93 (90.3)
Serious TEAEs	6 (4.8)	11 (10.7)
Treatment-related serious TEAEs	2 (1.6)	1 (1.0)
TEAEs leading to permanent study treatment discontinuation	3 (2.4)	3 (2.9)
Treatment-related local TEAEs	71 (56.8)	93 (90.3)
Severe treatment-related local TEAEs	4 (3.2)	2 (1.9)
Treatment-emergent local AESIs	1 (0.8)	1 (1.0)
Anaphylactic reaction	12 (9.6)	18 (17.5)
Treatment-related anaphylactic reaction	6 (4.8)	5 (4.9)
TEAEs leading to epinephrine use	13 (10.4)	19 (18.4)
Treatment-related TEAEs leading to epinephrine use	5 (4.0)	3 (2.9)

AESI, adverse event of special interest.