

KARE Phase 2 Topline Data: Oral KORSUVA™ for Pruritus in Atopic Dermatitis

APRIL 2021

KARE Phase 2 study evaluated the efficacy and safety of oral difelikefalin for moderate to severe pruritus in adult subjects with atopic dermatitis (AD). The FDA has conditionally accepted KORSUVA™ as the trade name for difelikefalin injection. Difelikefalin injection is an investigational drug product and its safety and efficacy have not been fully evaluated by any regulatory authority.



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Cara Therapeutics Pipeline

Program	Indication*	STAGE OF DEVELOPMENT				Commercialization Rights [†] (ex-Japan and S. Korea) [‡]
		Phase I	Phase II	Phase III	NDA Review	
KORSUVA™ Injection	Pruritus CKD-HD [§]					US-Vifor EU / Other-VFMCRP
Oral KORSUVA™	Pruritus NDD-CKD					Cara
Oral KORSUVA™	Pruritus AD					Cara
Oral KORSUVA™	Pruritus PBC					Cara
Oral KORSUVA™	Pruritus NP					Cara

*Cara Therapeutics has investigated KORSUVA™ for post-operative pain.

†Vifor has commercial rights in Non-US Fresenius Medical Care dialysis clinics under a profit-share arrangement.

‡Commercialization rights to KORSUVA™ in defined indications—Japan: Maruishi Pharma; South Korea: CKD Pharma.

§PDUFA date is August 23, 2021.

||VFMCRP and Cara have rights to promote in Fresenius clinics in the US under a profit-share agreement.

CKD-HD: Chronic Kidney Disease-Hemodialysis; NDD—CKD: Non-Dialysis Dependent-Chronic Kidney Disease; AD:

Atopic Dermatitis; PBC: Primary Biliary Cholangitis; NP: Notalgia Paresthetica.

3 | The FDA has conditionally accepted KORSUVA™ as the trade name for difelikefalin injection. Difelikefalin injection is an investigational drug product and its safety and efficacy have not been fully evaluated by any regulatory authority.

Oral KORSUVA™ (Difelikefalin) For Atopic Dermatitis-Associated Pruritus

Moderate-Severe Pruritus

30 million
US patients
~80%
Mild-Moderate Disease*



~20%
Severe Disease*

**Approved
Therapies**



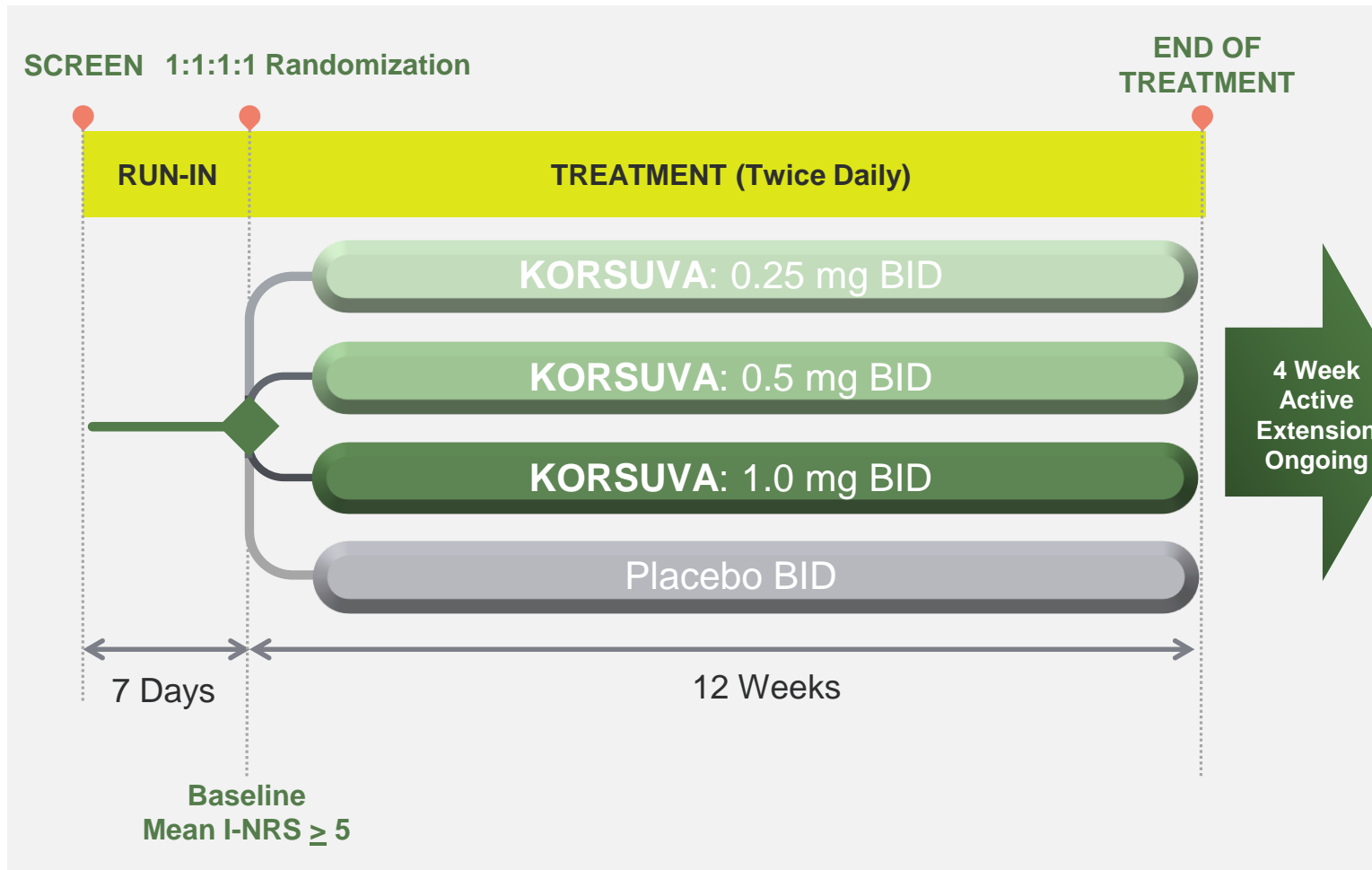
Topical Steroids & Immunomodulators



Injectable Biologic

*Silverberg JI. Public Health Burden and Epidemiology of Atopic Dermatitis. *Dermatol Clin.* 2017;35(3):283-289. Chiesa Fuxench ZC, Block JK, Boguniewicz M, et al. Atopic Dermatitis in America Study: A Cross-Sectional Study Examining the Prevalence and Disease Burden of Atopic Dermatitis in the US Adult Population. *J Invest Dermatol.* 2019;139(3):583-590. Barbarot S et al. Epidemiology of atopic dermatitis in adults: Results from an international survey. *Allergy* 2018; 1284-1293. Chovatiya R et al. Clinical phenotyping of atopic dermatitis using combined itch and lesional severity: A prospective observational study. *Annals of Allergy, Asthma Immunology* 2021. The FDA has conditionally accepted KORSUVA™ as the trade name for difelikefalin injection. Difelikefalin injection is an investigational drug product and its safety and efficacy have not been fully evaluated by any regulatory authority.

KARE: Phase 2 Study Design



Primary Endpoint

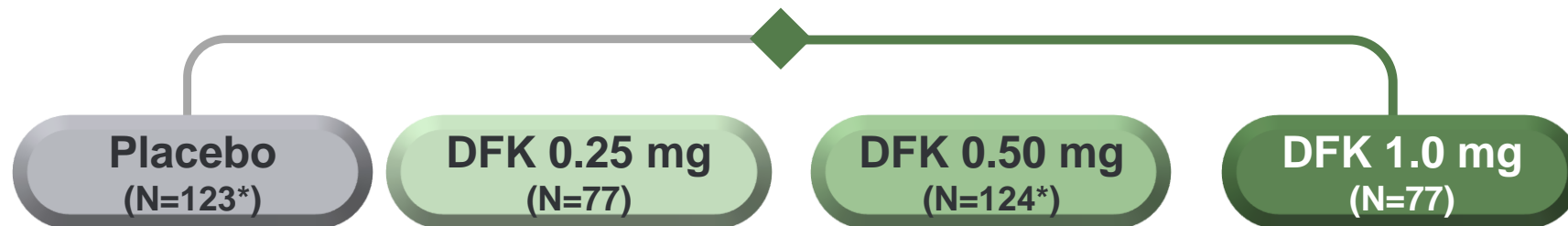
- Change from baseline in the weekly mean of the daily 24-hr Itch-Numeric Rating Scale (I-NRS) at Week 12

Key Secondary Endpoint

- Proportion of subjects achieving ≥ 4 -point improvement in I-NRS at Week 12

KARE: Patient Disposition

Total Randomized
(N=401)



	Placebo (N=123*)	DFK 0.25 mg (N=77)	DFK 0.50 mg (N=124*)	DFK 1.0 mg (N=77)
Completed	97 (79%)	63 (82%)	102 (82%)	61 (79%)
Discontinued	26 (21%)	14 (18%)	22 (18%)	16 (21%)
Adverse event	4	3	1	9
Subject withdrew consent	5	3	8	4
Subject non-compliance	6	2	7	0
Lost to follow-up	5	2	1	2
Lack of therapeutic efficacy	3	1	2	0
Other	3	3	3	1
Use of Rescue Medication	2 (1.6%)	4 (5.2%)	1 (0.8%)	1 (1.3%)

KARE: Patient Demographics

	Placebo (N=123)	DFK 0.25 mg (N=77)	DFK 0.50 mg (N=124)	DFK 1.0 mg (N=77)
Female, n (%)	80 (65)	54 (70)	83 (67)	53 (69)
Age - Mean (SD)	40 (15.6)	43 (16.2)	42 (15.4)	41 (14.0)
Race, n (%)				
White	71 (58)	44 (57)	74 (60)	40 (52)
Black	42 (34)	31 (40)	40 (32)	33 (43)
Asian	5 (4)	1 (1)	5 (4)	2 (3)
BMI – Mean (SD)	29 (7)	30 (8)	32 (9)	31 (8)

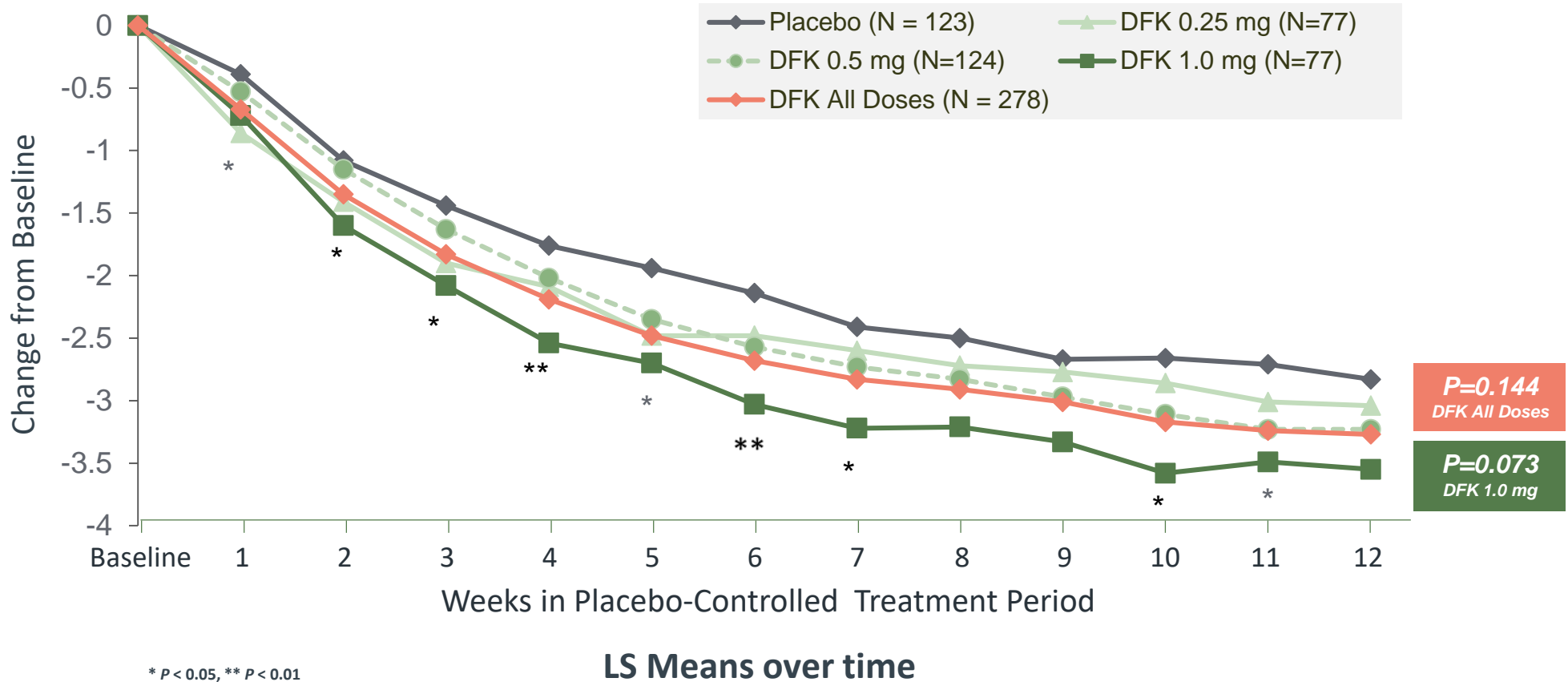
KARE: Baseline Disease Characteristics

	Placebo (N=123)	DFK 0.25 mg (N=77)	DFK 0.50 mg (N=124)	DFK 1.0 mg (N=77)
Duration of AD (yrs) – Mean (SD)	20 (16)	25 (14)	21 (15)	23 (16)
Baseline BSA (%) – Mean (SD)	8.4 (6.9)	8.3 (6.0)	8.4 (6.4)	9.5 (6.9)
Baseline BSA Group – n (%)				
< 10 %	79 (64)	50 (65)	82 (66)	46 (60)
≥ 10 %	44 (36)	27 (35)	42 (34)	31 (40)
Baseline EASI – Mean (SD)	5.9 (4.9)	6.9 (5.4)	5.9 (4.3)	6.5 (4.5)
Baseline IGA				
2	56 (46)	33 (43)	57 (46)	33 (43)
3	64 (52)	40 (52)	64 (52)	43 (56)
4	3 (2)	4 (5)	3 (2)	1 (1)
Baseline I-NRS – Mean (SD)	7.7 (1.3)	7.8 (1.3)	7.8 (1.2)	7.9 (1.2)

8 | BSA=Body Surface Area & <10% is mild/moderate AD; EASI scores ranges from 0 to 72; IGA scores range from 0 to 4; I-NRS: Worst Itching Numeric Rating Scale (0 to 10) where 0 = no itch and 10 = worst itching imaginable.

Primary Endpoint: Change from Baseline in Daily I-NRS at Week 12 (ITT)

Significant improvement observed in 1.0 mg DFK vs placebo in majority of timepoints, starting at week 1

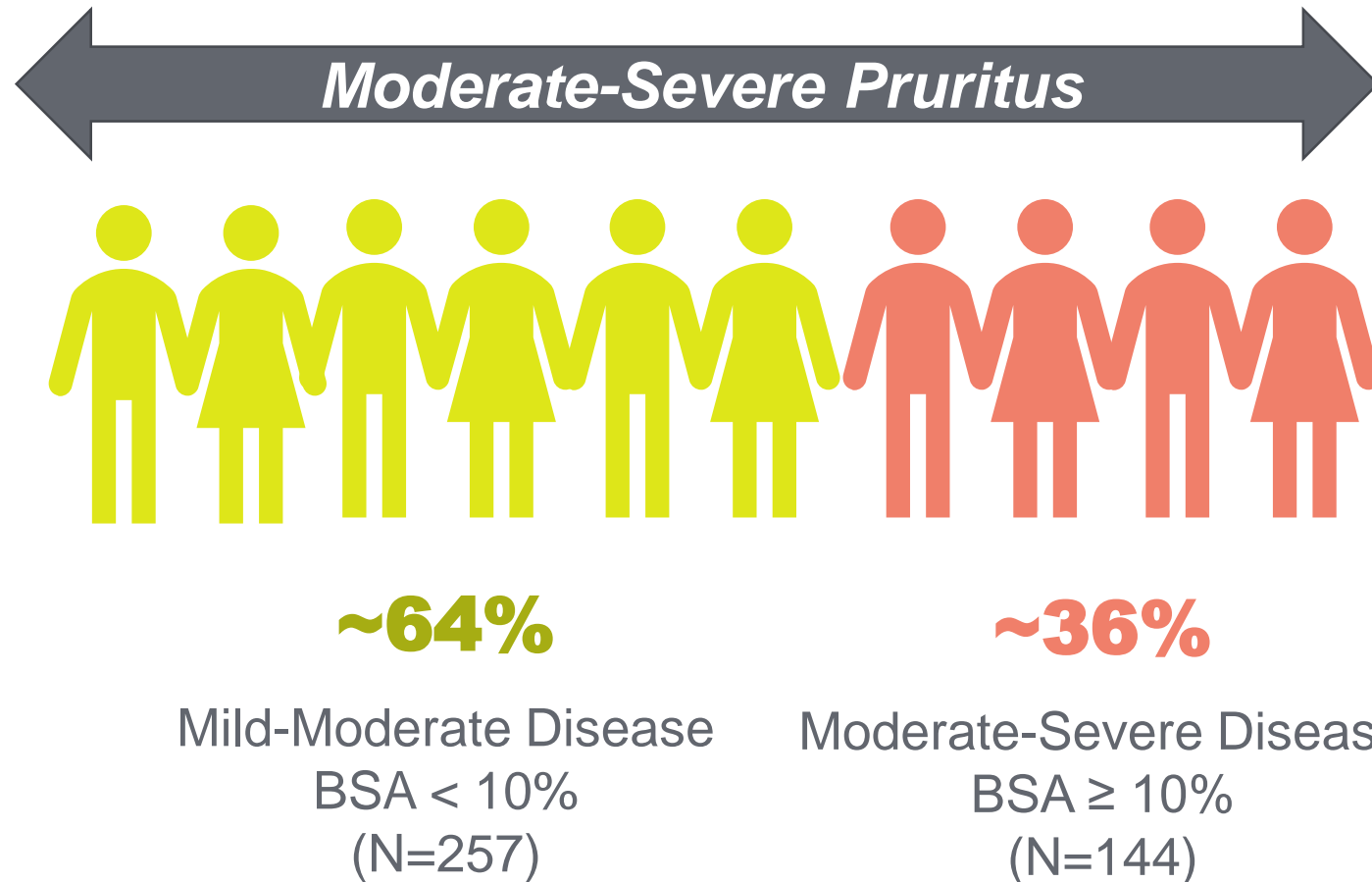


Key Secondary Endpoint: ≥ 4 -point Improvement in I-NRS at Week 12 (ITT)

	Placebo (N=123)	DFK 0.25 mg (N=77)	DFK 0.50 mg (N=124)	DFK 1.0 mg (N=77)
Estimated Percent Responder	29%	38%	32%	33%
Odds Ratio		1.5	1.2	1.2
P-value		p=0.18	p=0.55	p=0.59

10 | *Estimated percentage & P-value based on a logistic regression model with terms for treatment group, baseline I-NRS score, and AD disease severity
 Patients who d/c early or have missing data in a specific week are included as "non-responders"*

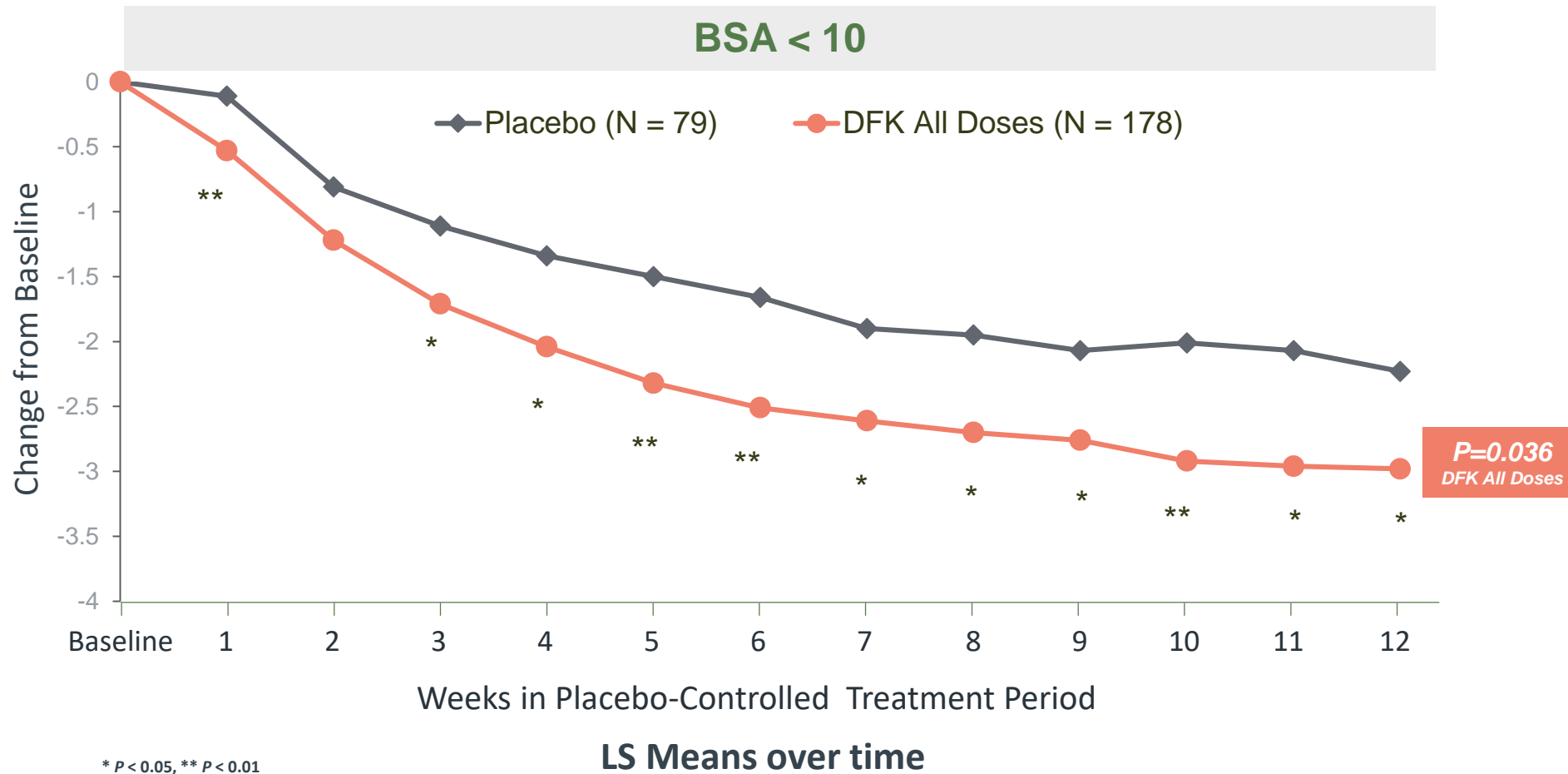
KARE Trial Patient Population



Mild to Moderate AD

Change from Baseline in Daily I-NRS Through Week 12

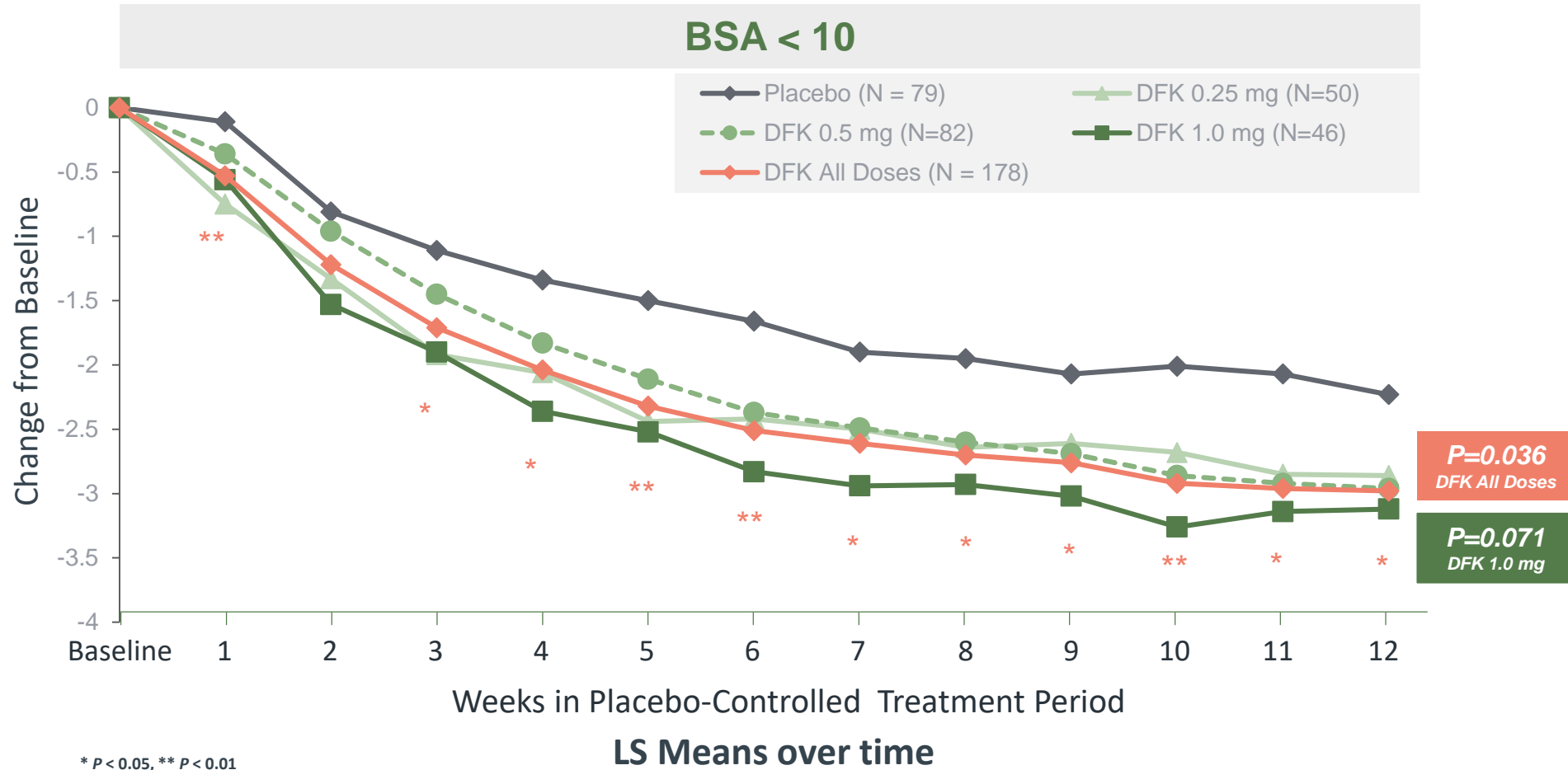
Significant anti-pruritic effect of DFK observed beginning Week 1 and sustained through Week 12



12 | LS Means from MMRM with terms for treatment, week, week by treatment interaction, baseline score, and AD severity. Missing data imputed using multiple imputation (MI) under missing at random (MAR) assumption. I-NRS scores after use of rescue are set to missing and then imputed with MI

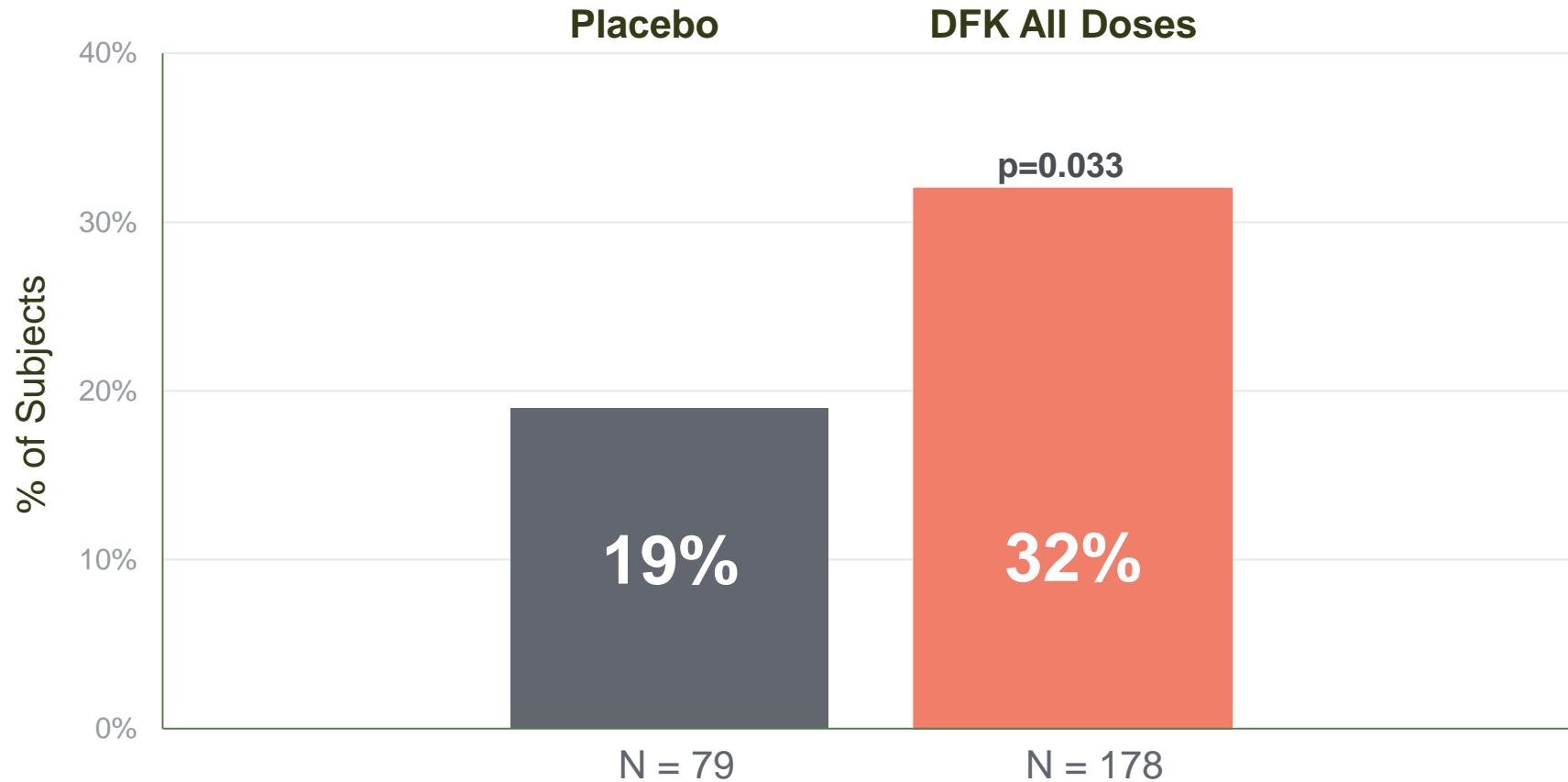
Mild to Moderate AD

Change from Baseline in Daily I-NRS through Week 12



Mild to Moderate AD Subjects with ≥ 4 -point Improvement in I-NRS at Week 12

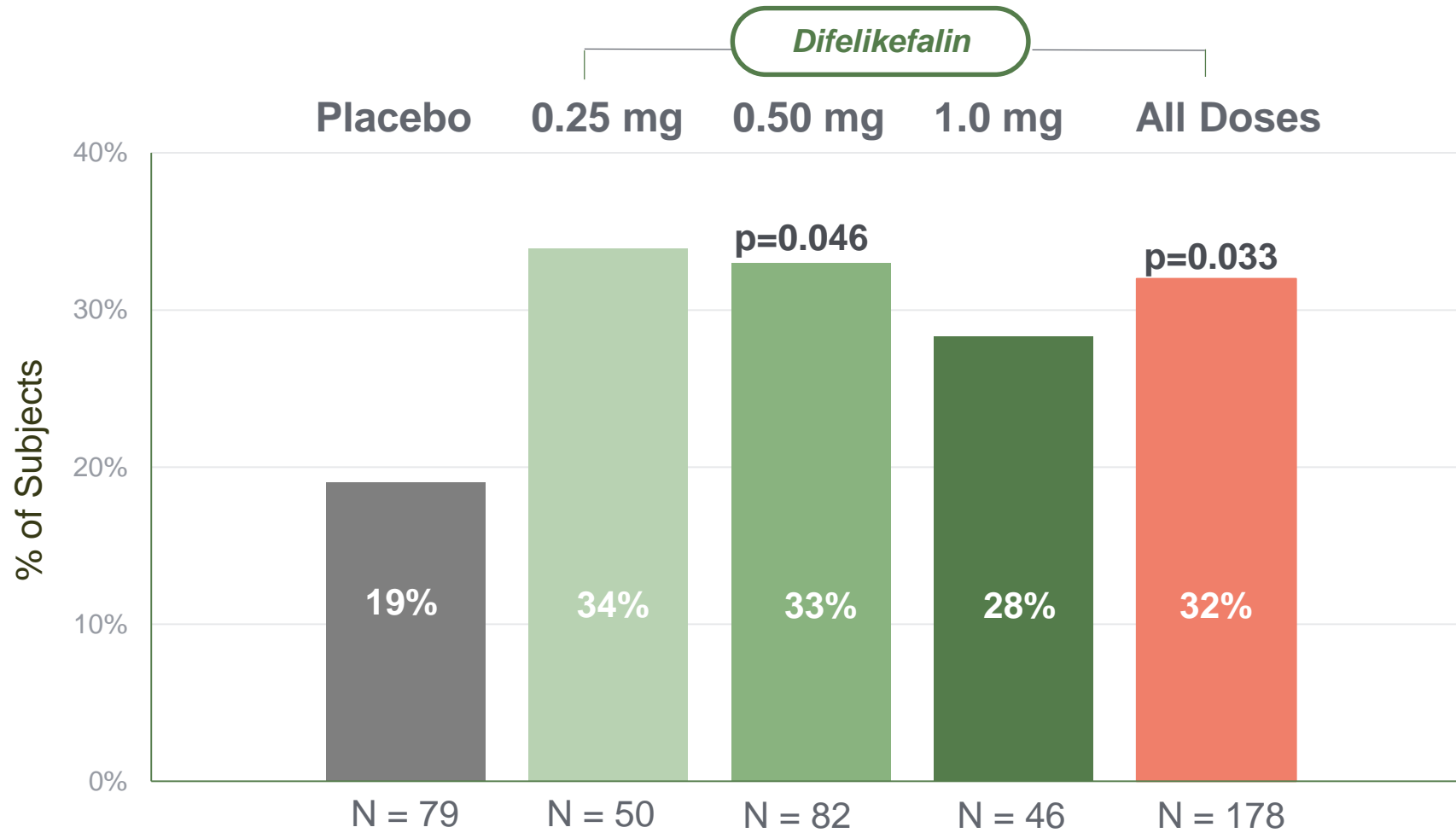
A significantly greater proportion of patients on DFK achieved 4-point improvement in I-NRS



14 | Estimated percentage & P-value based on a logistic regression model with terms for treatment group and baseline I-NRS score.
Patients who d/c early or have missing data in a specific week are included as "non-responders"

Mild to Moderate AD

Subjects with ≥ 4 -point Improvement in I-NRS at Week 12



Summary of Adverse Events

	Placebo (N=123)	DFK 0.25 mg (N=77)	DFK 0.50 mg (N=124)	DFK 1.0 mg (N=77)
Subjects with at least one TEAE, n (%)	54 (43.9%)	36 (46.8%)	49 (39.5%)	42 (54.5%)
Subjects with at least one serious TEAE, n (%)	0	1 (1.3%)	1 (0.8%)	2 (2.6%)
Subjects with TEAE resulting in treatment discontinuation, n (%)	4 (3.3%)	3 (3.9%)	1 (0.8%)	9 (11.7%)

Most Commonly Reported TEAEs

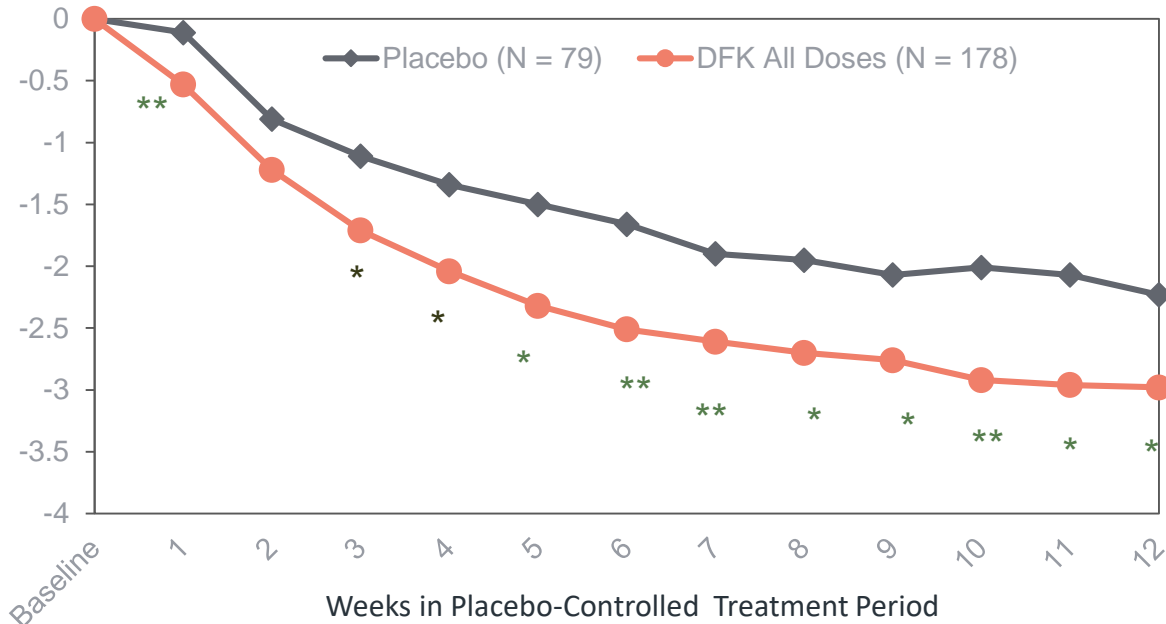
Treatment-emergent Adverse Events at ≥5% frequency; n (%)	Placebo (N=123)	DFK 0.25 mg (N=77)	DFK 0.50 mg (N=124)	DFK 1.0 mg (N=77)
Abdominal pain*	13 (10.6%)	4 (5.2%)	11 (8.9%)	14 (18.2%)
Nausea	11 (8.9%)	1 (1.3%)	6 (4.8%)	5 (6.5%)
Dry Mouth	0	2 (2.6%)	2 (1.6%)	6 (7.8%)
Headache	5 (4.1%)	5 (6.5%)	3 (2.4%)	2 (2.6%)
Dizziness	2 (1.6%)	4 (5.2%)	3 (2.4%)	2 (2.6%)
Hypertension	1 (0.8%)	1 (1.3%)	1 (0.8%)	5 (6.5%)

17 | Safety analyses performed in the safety population, defined as all randomized patients who received ≥1 dose of study drug based on actual treatment received.
*includes PTs abdominal pain, abdominal pain upper, abdominal discomfort

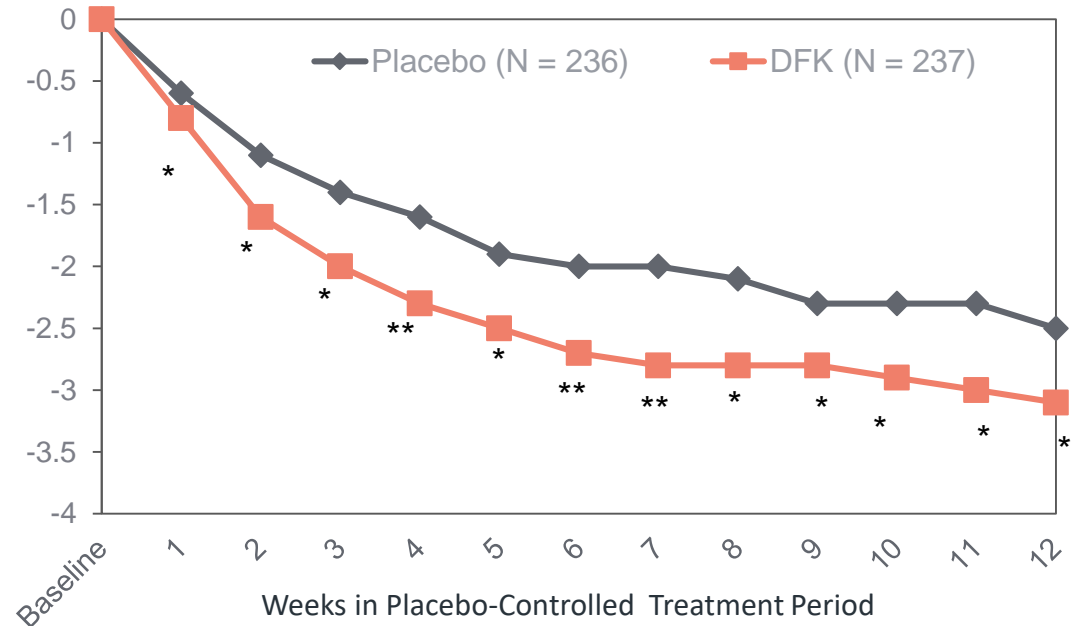
KORSUVA™ Profiles: Mild to Moderate AD-aP & CKD-aP

Similar anti-pruritic effects were observed in KARE and KALM-2 trials

Mild to Moderate Atopic Dermatitis-aP: KARE



CKD-aP: Phase 3/KALM-2 Hemodialysis Patients



LS Means over time

* P < 0.05, ** P < 0.01

Conclusions

- Oral KORSUVA™ did not meet Primary Endpoint of I-NRS change from baseline at week 12 in ITT population
- However, statistically significant improvement was observed in mild-to-moderate subjects throughout Week 12
- Oral KORSUVA™ resulted in statistically significant improvement in the registration endpoint 4-point responder analysis in subjects with mild to moderate AD at Week 12
- Oral KORSUVA™ was generally well tolerated across all doses

Efficacy and safety data support further development of KORSUVA in mild-to-moderate AD patients – EOP2 FDA meeting target for 2H, 2021