

## Supplementary Materials

**Table S1.** Changes in clinical scores between groups.

	Topical corticosteroids (n = 10)				Cyclosporine (n = 14)				Dupilumab (n = 22)				P- value#
	Baseline (n = 10)	End (n = 9)	Change (n = 9)	P- value*	Baseline (n = 14)	End (n = 12)	Change (n = 12)	P- value*	Baseline (n = 22)	End (n = 21)	Change (n = 21)	P- value*	
<b>EASI</b>	11.72 (3.91)	4.54 (2.20)	-7.05	0.008	15.04 (4.09)	11.21 (8.67)	-5.14	0.092	24.60 (5.36)	7.07 (4.33)	-17.50	<0.001	<0.001
<b>SCORAD</b>	37.28 (12.11)	24.33 (13.15)	-12.79	0.073	47.41 (9.43)	32.93 (20.64)	-15.69	0.03	57.30 (13.83)	27.29 (10.38)	-29.26	<0.001	0.026
<b>DLQI</b>	12.20 (6.20)	9.38 (5.01)	-3.75	0.195	9.29 (4.05)	6.11 (4.57)	-2.56	0.196	17.59 (7.28)	5.19 (4.62)	-12.52	<0.001	0.002
<b>BSA</b>	14.23 (5.31)	7.68 (4.51)	-6.33	0.006	22.63 (7.96)	19.26 (17.39)	-6.61	0.234	39.54 (18.47)	17.18 (12.24)	-21.94	<0.001	0.012
<b>IGA</b>	2.50 (0.53)	1.25 (0.46)	-1.13	0.002	3.21 (0.58)	2.33 (1.11)	-1.00	0.028	3.73 (0.46)	1.90 (0.70)	-1.81	<0.001	0.022

Data are expressed as mean (standard deviation).

BSA, body surface area; DLQI, Dermatology Life Quality Index; EASI, Eczema Area Severity Index; IGA, Investigator Global Assessment scale; SCORAD, SCORing Atopic Dermatitis.

\*P-value after using Student's t-test for paired samples to compare scores at baseline and after follow-up.

#P-value after using one-way independent ANOVA test to compare scores between different treatments (topical corticosteroids, cyclosporine and dupilumab).

**Table S2.** Changes in barrier function parameters after each treatment and between groups.

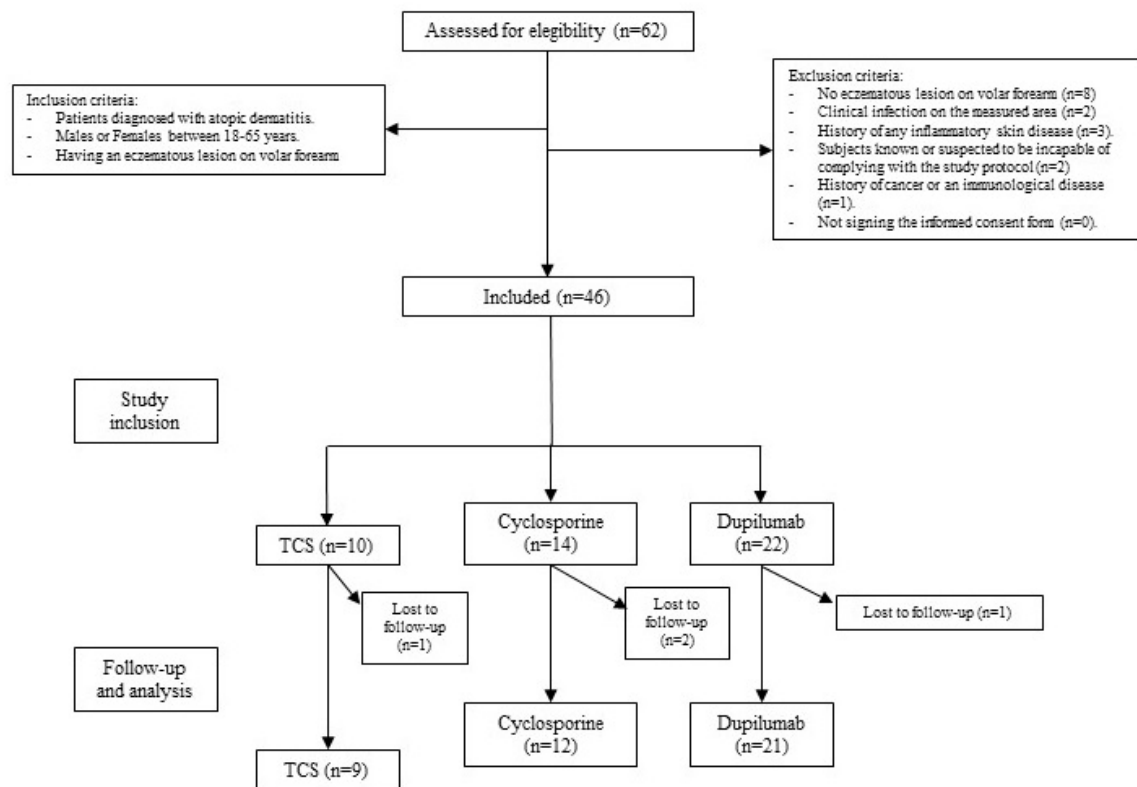
Skin homeostasis parameters	Topical corticosteroids (n = 10)				Cyclosporine (n = 14)				Dupilumab (n = 22)				Differences between treatments	
	Baseline (n = 10)	End (n = 9)	Change (n = 9)	<i>P-value</i> *	Baseline (n = 14)	End (n = 12)	Change (n = 12)	<i>P-value</i> *	Baseline (n = 22)	End (n = 21)	Change (n = 21)	<i>P-value</i> *	<i>P-value</i> #	
On eczematous lesions														
TEWL (g·h <sup>-1</sup> ·m <sup>-2</sup> )	25.30 (10.59)	14.88 (3.41)	-10.43	0.047	23.51 (9.88)	15.79 (6.75)	-7.73	0.089	31.02 (16.93)	12.10 (5.05)	-18.93	<0.001	0.128	
Temperature (°C)	31.54 (1.46)	32 (1.06)	+0.46	0.257	32.35 (1.13)	32.74 (0.46)	+0.49	0.316	32.53 (1.08)	31.64 (1.56)	-0.82	0.009	0.013	
SCH (AU)	18.24 (12.53)	40.79 (13.86)	+22.54	0.010	27.78 (15.05)	34.36 (17.79)	+2.85	0.986	19.93 (9.71)	37.73 (15.59)	+19.18	<0.001	0.029	
pH	6.82 (0.50)	6.77 (0.57)	-0.04	0.902	6.12 (0.52)	6.37 (0.68)	+0.86	0.064	6.56 (0.80)	6.45 (0.67)	-0.12	0.641	0.177	
On non-lesioned skin														
TEWL (g·h <sup>-1</sup> ·m <sup>-2</sup> )	9.35 (3.06)	9.49 (3.92)	+0.14	0.940	10.83 (4.54)	9.23 (2.69)	-1.60	0.257	11.87 (4.77)	8.25 (2.15)	-3.62	0.006	0.159	
Temperature (°C)	30.83 (1.58)	31.26 (0.99)	+0.44	0.227	31.25 (1.25)	31.70 (0.84)	+0.61	0.306	31.18 (1.28)	30.47 (1.48)	-0.63	0.094	0.083	
SCH (AU)	39.94 (9.21)	46.40 (10.61)	+6.46	0.061	38.23 (12.85)	39.09 (11.46)	+0.05	0.620	32.68 (12.59)	41.68 (10.63)	+11.41	<0.001	0.033	
pH	6.34 (0.66)	6.77 (0.89)	+1.81	0.421	6.07 (0.54)	6.49 (0.65)	+0.99	0.021	6.57 (0.76)	6.58 (0.65)	-0.02	0.953	0.173	

Data are expressed as mean (standard deviation).

AU, arbitrary units; SCH, Stratum Corneum Hydration; TEWL, Transepidermal Water Loss.

\**P-value* after using Student's t-test for paired samples to compare parameters at baseline and after follow-up.

#*P-value* after using the one-way independent ANOVA test to compare changes in skin homeostasis parameters between different treatments (topical corticosteroids, cyclosporine and dupilumab)



**Figure S1.** Participant flow chart