



## Supplementary Material

**Supplemental Table S1** – Non-inclusion criteria.

Non-inclusion criteria
<ol style="list-style-type: none"><li>1. Regular consumption of kefir or any probiotic strains (as supplements or pharmaceuticals) in the 3 months prior to the study or during the study</li><li>2. Oncologic disease</li><li>3. Women pregnant or breastfeeding</li><li>4. Retinoid treatment in the 3 months prior to the study or during the study</li><li>5. Antibiotic treatment in the 30 days prior to the study or during the study</li><li>6. Topical treatment with corticosteroids / anti-inflammatories in the study area in the 8 days prior to the study or during the study</li><li>7. Chronic illness involving taking regular (daily) medications such as insulin, oral antidiabetics, anti-inflammatories or immunosuppressants</li><li>8. Skin disease in the study areas</li><li>9. Cosmetic treatment on the skin, scrubbing, or depilation at the study areas in the 30 days, or during the study period</li><li>10. Failure to comply with the guidelines of the study</li></ol>

**Supplemental Table S2** – Baseline GI status parameters for each study group (relative frequency).

Baseline GI Status	Healthy Group (n = 33)			Atopic Group (n = 19)		
	HK	H0	<i>p</i> -Value	AK	A0	<i>p</i> -Value
Functional constipation, % (n)	38.5 (5)	25.0 (5)	0.076	55.6 (5)	60.0 (6)	0.956
Functional diarrhea, % (n)	30.8 (4)	25.0 (5)	0.452	22.2 (2)	40.0 (4)	0.405
Dejection frequency > 3 times per day, % (n)	30.8 (4)	25.0 (5)	0.178	22.2 (2)	20.0 (2)	0.362
Intensity of abdominal discomfort $\geq 5$ , % (n)	23.1 (3)	5.0 (1)	0.438	66.7 (6)	60.0 (6)	0.634
Functional abdominal distension, % (n)	53.8 (7)	55.0 (11)	0.449	88.9 (8)	90.0 (9)	0.242
Flatulence frequency, % (n)	61.5 (8)	55.0 (11)	0.832	88.9 (8)	90.0 (9)	0.782
Associated discomfort, % (n)	30.8 (4)	35.0 (7)	0.136	88.9 (8)	70.0 (7)	0.563
Belching, % (n)	15.4 (2)	25.0 (5)	0.784	55.6 (5)	30.0 (3)	0.413
Fullness sensation, % (n)	30.8 (4)	25.0 (5)	0.716	33.3 (3)	50.0 (5)	0.312
Headache, % (n)	92.3 (12)	65.0 (13)	0.076	55.6 (5)	70.0 (7)	0.445

Groups were compared by Chi-Square test, with  $p < 0.05$  for statistical significance. n.a.- not applicable, outcome is constant.

**Supplemental Table S3** – Individual variation in GI status, between t8 and t0 (Wilcoxon Standartized (Z) test statistic (p-value)).

GI STATUS	Healthy Group (n = 33)		Atopic Group (n = 19)	
	HK	H0	AK	A0
Functional constipation	-2.236 (0.025)	0.000 (1.000)	-2.707 ( <b>0.038</b> )	-1.000 (0.317)
Functional diarrhea	-2.000 ( <b>0.046</b> )	0.000 (1.000)	-1.000 (0.317)	-1.414 (0.157)
Dejection frequency > 3 times per day	-1.633 (0.102)	0.000 (1.000)	-1.342 (0.180)	-1.414 (0.157)
Intensity of abdominal discomfort ≥ 5	-1.841 (0.066)	0.000 (1.000)	-1.612 (0.107)	-1.214 (0.225)
Functional abdominal distension	-2.646 ( <b>0.008</b> )	0.000 (1.000)	-2.271 ( <b>0.023</b> )	-0.577 (0.564)
Flatulence frequency	-2.236 ( <b>0.025</b> )	-1.414 (0.157)	-1.947 (0.052)	-0.333 (0.739)
Associated discomfort	-1.633 (0.102)	0.000 (1.000)	-2.428 ( <b>0.015</b> )	-1.265 (0.206)
Belching	-1.414 (0.157)	0.000 (1.000)	-1.890 (0.059)	-1.342 (0.180)
Fullness sensation	0.000 (1.000)	0.000 (1.000)	-1.342 (0.180)	-0.447 (0.655)
Headache	-1.857 (0.063)	0.000 (1.000)	-1.633 (0.102)	-0.447 (0.655) ¥

HK – Healthy skin with kefir intake; H0 - Healthy skin without kefir intake; AK – Atopic skin with kefir intake; A0 – Atopic skin without kefir intake. Individuals were compared by Wilcoxon signed rank test, with  $p < 0.05$  for statistical significance. ¥ - based on negative ranks (variable at t0 < variable at t8).