Supplementary material to article by J. Y. Jung et al. “Effect of Dietary Supplementation with Omega-3F Acid and gamma-linolenic Acid on Acne Vulgaris: A Randomised, Double-blind, Controlled Trial”

Acne patients screened
\( n=62 \)

17 patients failed to meet inclusion criteria

Week 0
Randomly allocated (1:1:1)
According to gender, age, BMI, and acne severity
\( n=45 \)

Omega-3 fatty acid group
\( n=15 \)

Gamma linolenic acid group
\( n=15 \)

Control group
\( n=15 \)

Follow-up visit
Week 2, 5 and 10

All participants completed study

Fig. S1. Study flow chart.
Fig. S2. Omega-3 fatty acid-treated patient (A: pre-treatment, B: 10 week post-treatment). γ-linolenic acid-treated patient (C: pre-treatment, D: 10 week post-treatment). Clinical improvements were observed in both patient groups.
Fig. S3. Histopathologic changes. Before treatment (A, C, E, G) and after 10 weeks of omega-3 fatty acid supplementation (B, F) or γ-linolenic acid (GLA) supplementation (D, H). Decreases in inflammation severities and IL-8 staining intensity was observed under both treatment groups. H&E staining (A–D), and immunohistochemical staining for IL-8 (E–H), original magnification ×100.
Gamma linolenic acid (GLA) 

\[ \text{Δ5-desaturase: Absent from skin epidermis} \]

\[ \text{Cyclo-oxygenase} \]

\[ \text{15-lipoxygenase} \]

Prostagrandin E1 (PGE1) 

15-hydroxydihomo-γ-linolenic acid (15-OH-DGLA) 

Arachidonic acid (AA) 

Anti-inflammatory 

Pro-inflammatory 

**Fig. S4.** Metabolic pathways for γ-linolenic acid.