

Beyond Nano-Delivery: Synerjet-Assisted Transdermal Delivery of Nano-Formulated Nicotinamide Mononucleotide (Nano-NMN) for Comprehensive Skin Rejuvenation



The clinical study presented here was conducted using the SYNERJET. The medical professional version of SYNERJET is marketed globally as SYNERJET PRO™

Published in *Cosmetics* (MDPI), 2026 — Hong, W. et al. Peer-reviewed, IRB-approved 4-week split-face trial (n=21).

+90–188% greater improvement vs. topical-only across all parameters — $p < 0.001$

+188% deeper hydration gain at 2.5mm — confirms true dermal-layer delivery

0 adverse events, 99.7% compliance — a well-tolerated, clinic-ready protocol

● HOW SYNERJET™ DELIVERS



● TOP RESULTS

+170.6% EYE WRINKLE REDUCTION vs. control, $p < 0.001$	+176.6% PORE VOLUME REDUCTION vs. control, $p < 0.001$	+188.0% DEEP HYDRATION (2.5MM) vs. control, $p < 0.001$	+149.8% MELANIN / PIGMENTATION vs. control, $p < 0.001$
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● STUDY SNAPSHOT

21 Korean women, 40+, split-face design	4 wks Weekly Synerjet PRO vs. daily topical	IRB GCP / MFDS-compliant protocol	99.7% Compliance rate; 0 adverse events
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● TEST (SYNERJET PRO™) vs. CONTROL (TOPICAL ONLY)

Parameter	Test Group	Control Group	Relative Improvement	Significance
Deep hydration (2.5mm)	5.74%	1.99%	+188.02%	$p < 0.001$
Pore volume	18.19%	6.57%	+176.62%	$p < 0.001$
Eye wrinkles (depth)	10.37%	3.83%	+170.56%	$p < 0.001$
Nasolabial folds (depth)	10.93%	4.29%	+154.45%	$p < 0.001$
Melanin color intensity	19.35%	7.75%	+149.75%	$p < 0.001$
Skin elasticity (R2)	2.88%	1.36%	+111.56%	$p < 0.001$
Hyperpigmentation area	25.49%	13.34%	+91.14%	$p < 0.001$

Reference: Hong, W.; Kim, J.; Noh, S.; Shim, J.; Park, S.-K.; Kim, M.-H. Beyond Nano-Delivery: Synerjet-Assisted Transdermal Delivery of Nano-Formulated Nicotinamide Mononucleotide (Nano-NMN) for Comprehensive Skin Rejuvenation. *Cosmetics* 2026, 13, 172. <https://doi.org/10.3390/cosmetics13040172>

IRB-approved trial (Protocol HM-P25-0510) commissioned by DEFY NUMBER Co., Ltd. Two HIRONIC researchers co-authored the study. For internal / investor use.