

ENGLISH

HIGH PURITY——

HP VITARAN[®]

POLYNUCLEOTIDES INTRADERMAL GEL



PN ——— VITARAN®

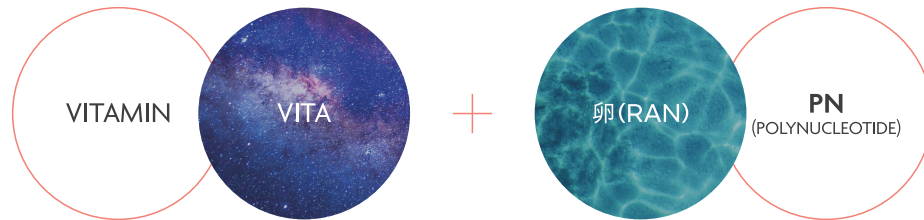
HIGH PURITY.



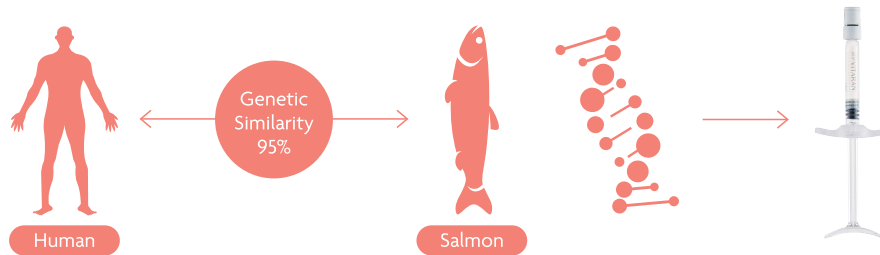
WHAT IS HP VITARAN®

HP Vitaran® is Medical Device formulated with high-purity **PolyNucleotide (PN) Sodium** as its key ingredient.

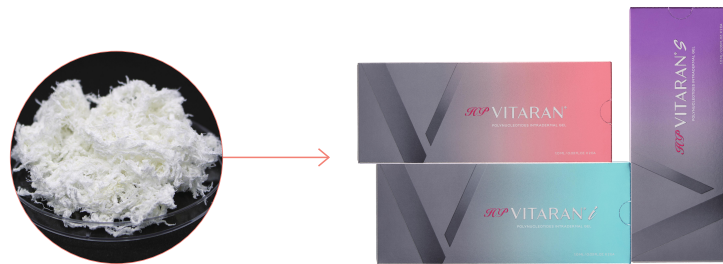
- DNA fragments extracted from Salmon/Trout male gonads
- High-molecular weight PN ($\geq 1,000$ kDa)
- $\geq 97\%$ base sequence composition similar to human DNA, ensuring high biocompatibility^{1), 2)}
- Stimulates collagen production within the dermal layer



By activating Adenosine A2A receptors¹⁾ on fibroblasts, it **boosts collagen synthesis and elasticity, awakening the skin's natural self-regenerating power.**



PolyNucleotide (PN) in VITARAN is produced and purified using BR PHARM's proprietary **high-purity DNA extraction and purification technology²⁾**, ensuring exceptional safety and biocompatibility.



• Certificate



HACCP

GMP

ISO 13485

CE

Patent

Ref)

1) Chargaff E(1951) The composition of the deoxyribonucleic acid of salmon male gonads

2) Piovesan A(2019) On the length, weight and GC content of the human genome

HP VITARAN® LINE UP

* Main Ingredient: PN (Polynucleotide)

* Available in various viscosities to suit different treatment needs



HP VITARAN® PN 20mg / mL

Model	HP VITARAN
Concentration	20mg/mL
Packaging Unit	1.0mL x 2syr
Needle	33G 4mm x 2ea
Viscosity	●●○
Storage	Store in a light-protected place at 1–30 °C

HP VITARAN® i PN 20mg / mL

Model	HP VITARAN i
Concentration	20mg/mL
Packaging Unit	1.0mL x 2syr
Needle	34G 4mm x 2ea
Viscosity	●○○
Storage	Store in a light-protected place at 1–30 °C

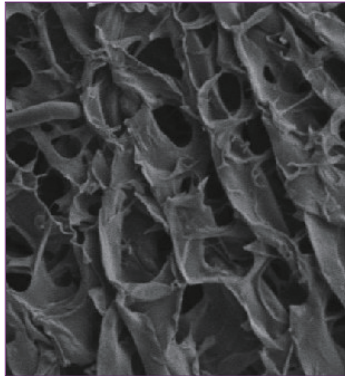
HP VITARAN® S PN 20mg / mL

Model	HP VITARAN S
Concentration	20mg/mL
Packaging Unit	1.0mL x 2syr
Needle	30G 13mm x 2ea
Viscosity	●●●
Storage	Store in a light-protected place at 1–30 °C

WHAT IS PN (POLYNUCLEOTIDE)

- **Main function**

Structural Matrix (Mechanical function)



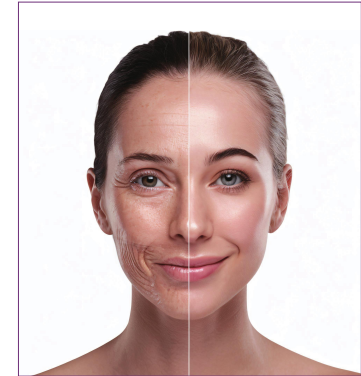
PN provides viscoelastic properties, forming a 3D scaffold within the dermis to support skin tissue

Hydration



With strong water-binding capacity, PN helps maintain optimal skin moisture levels

Tissue repair



Temporarily improves the appearance of wrinkles and supports tissue repair

KEY ADVANTAGES OF HP VITARAN®

1. Safe and Verified Raw Materials

- Sourced from eco-friendly land-based aquaculture environments
- Cultivated in chemical-free and contaminant-free conditions
- Thorough quality control through quarterly inspections for safety, radioactivity, and disease



• Using pure Seawater from Namhae



• Sand filtration system



• Recirculating filtration system



• Salmon trout farming



• Sea water temperature control system

수산물 안전성조사 결과 통보서				
수산물 안전성조사 결과 통보서 (수산물 안전성조사 결과 통보서)				
방사능(¹³⁷ I)	불검출	100Bq/kg이하	적합	수산물 안전성조사 결과 통보서
방사능(¹³⁷ Cs+ ¹³⁷ Cs)	불검출	100Bq/kg이하	적합	
수은(어류)	0.0mg/kg	0.5mg/kg이하	적합	
납(어류)	0.0mg/kg	0.5mg/kg이하	적합	
카드뮴(해양어류)	0.0mg/kg	0.2mg/kg이하	적합	

② Subject to over 150 safety, radiation, and disease tests four times a year



① **Raw materials** cultivated in a **safe**, land-based aquaculture environment free from harmful chemicals and pollutants.

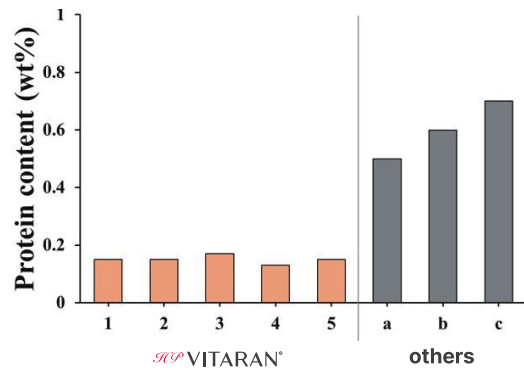
③ **Full traceability** ensured through the National Seafood Tracking System

KEY ADVANTAGES OF HP VITARAN®

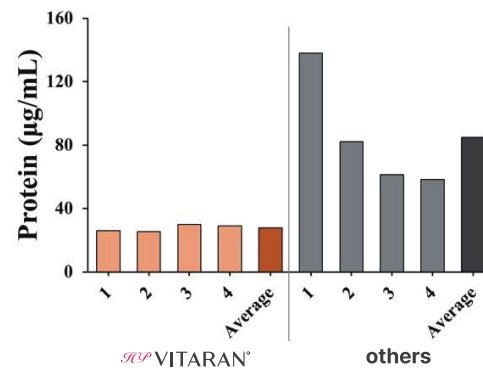
2. High-Purity Purification Technology (*Patent No. KR 10-2053221)

- **Patented Purification Technology** → Ensures high purity than competitors, from raw materials to finished products
→ Minimizes allergic and adverse reactions
- **Molecular Size Control Technology** → Produces uniformly sized PN molecules

Comparison with Other Raw Materials³⁾



Comparison with Other Finished product³⁾

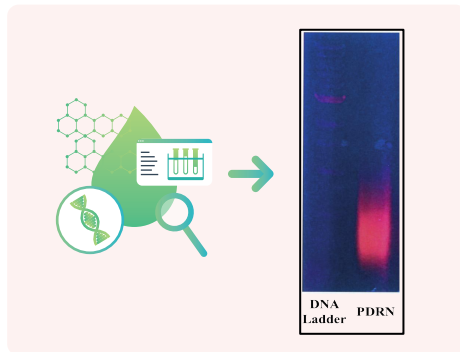


Comparison of erythema frequency⁴⁾



33% reduction
in **erythema**
compared to
competing products

others HP VITARAN®



Advanced molecular size control optimized for targeted efficacy

Ref.

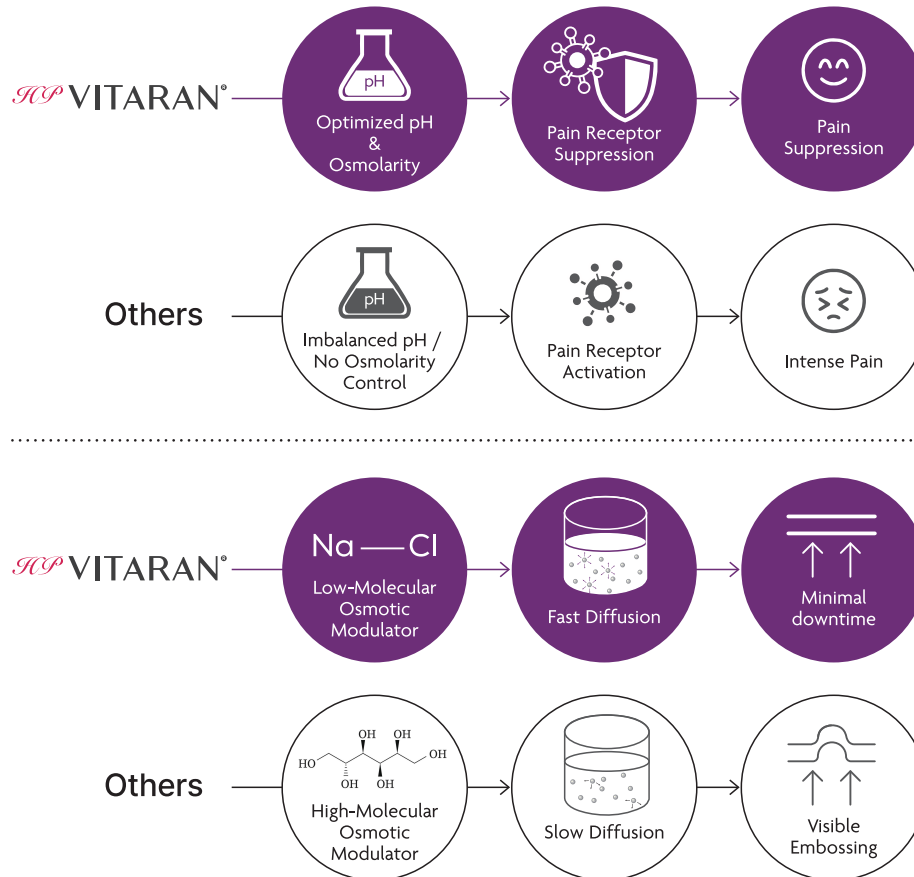
3) BRPHARM R&D Center data

4) Efficacy of Ionization-adjusted PN filler in Minimizing Injection Pain: A randomized, patient-blinded, split face study

KEY ADVANTAGES OF HP VITARAN®

3. Advanced Formulation Technology

Common PN Fillers: May cause pain upon injection due to pH imbalance.



Ref.
5) Efficacy of Ionization-adjusted PN filler in Minimizing Injection Pain: A randomized, patient-blinded, split face study

HP Vitaran®: Employs a differentiated Ionized PN Tech formulation

- Optimized pH and osmolarity
- Minimizes pain during injection and shortens post-treatment downtime
- Minimized embossing through even post-injection diffusion

Difference in injection pain perceived by patients⁵⁾

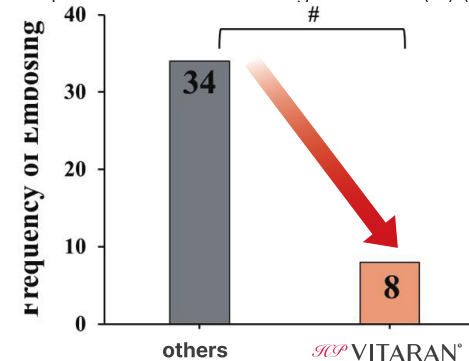
Patient preference for less painful injections

Equivalence
others

HP VITARAN®

Comparison of Embossing Frequency

Rate of improvement in embossing reduction (%) (n=60)

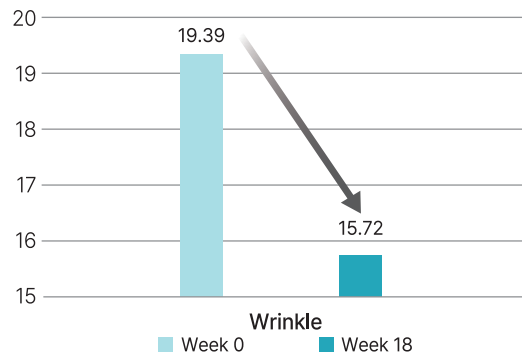
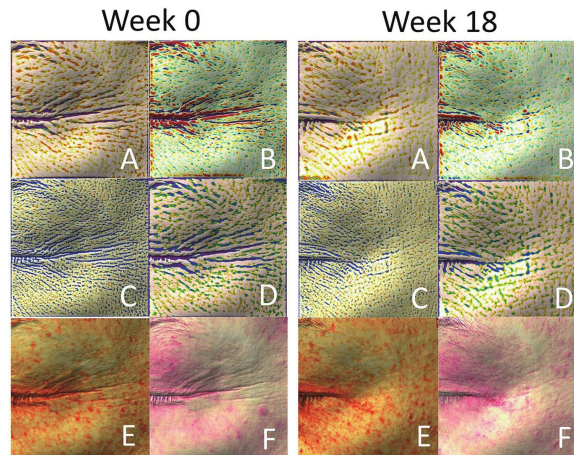


HP VITARAN® CLINICAL STUDY RESULT

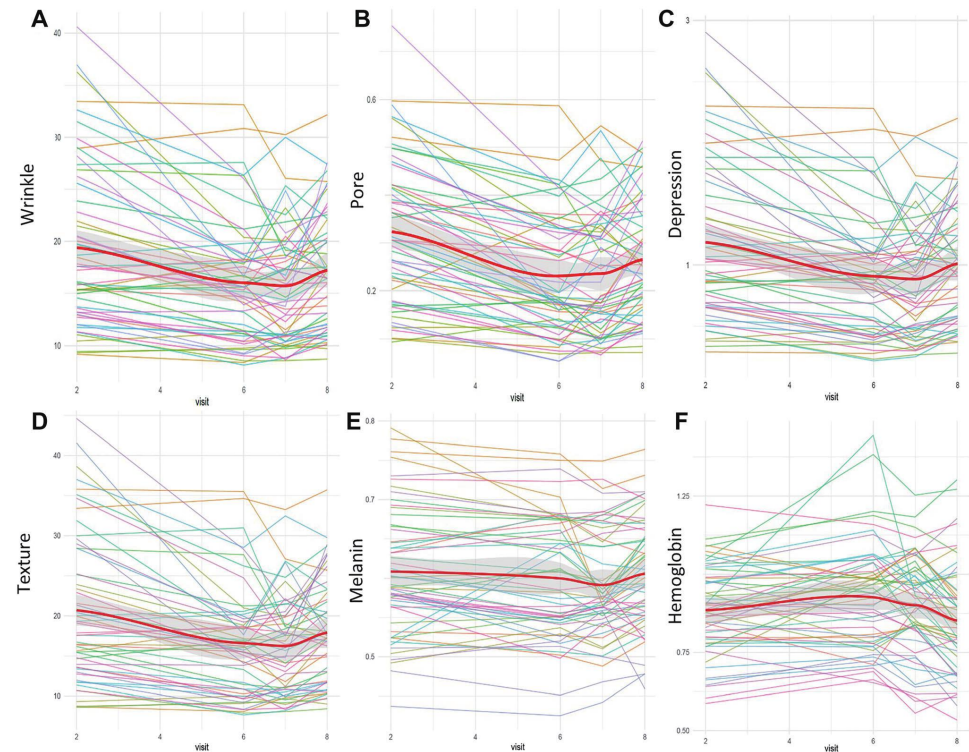
HP VITARAN® demonstrated equivalent efficacy to the control device
in a study involving 295 patients

1. WRINKLE IMPROVEMENT⁶⁾

Antera 3D imaging – Periorbital wrinkles



2. Comprehensive Skin Stability Index⁷⁾



Up to **20%** wrinkle improvement

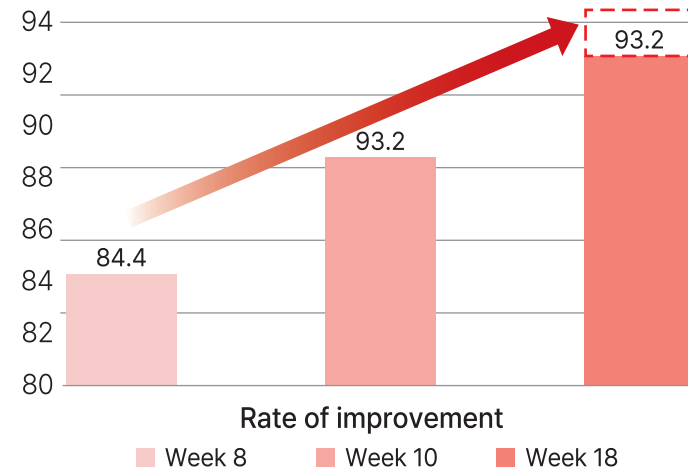
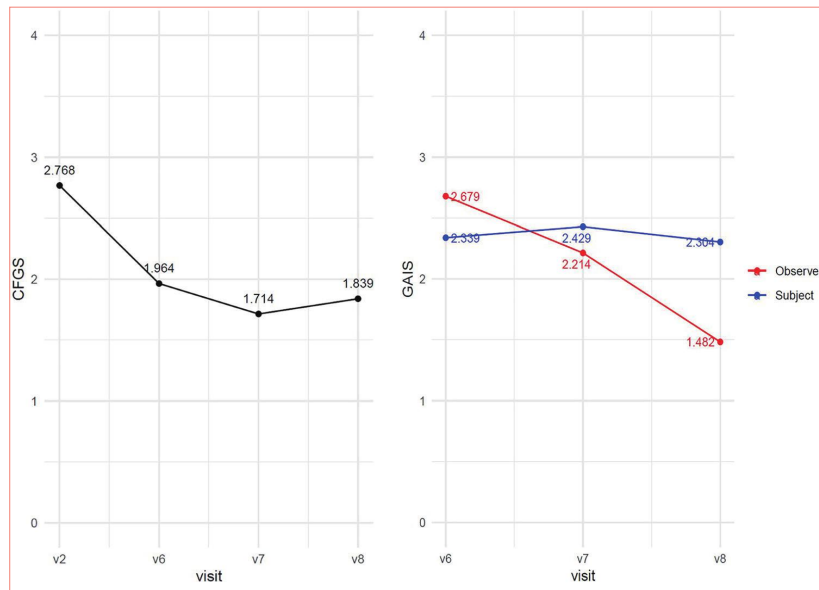
Ref.

6) JH Kim(2022) Effects of Polynucleotide Dermal Filler in the Correction of Crow's Feet Using an Antera Three-Dimensional Camera

7) Effects of Polynucleotide Dermal Filler in the Correction of Crow's Feet Using an Antera Three-Dimensional Camera

HP VITARAN® CLINICAL STUDY RESULT

3. CFGS⁸⁾ GAIS⁹⁾



93.2% improvement rate in the periorbital wrinkle scale
12 weeks after treatment

Ref.

8) CFGS (Crow's Feet Grading Scale): Evaluates the severity of crow's feet wrinkles, ranging from 0 (no wrinkles) ~ 4 (severe wrinkles)

9) GAIS (Global Aesthetic Improvement Scale): Assesses the overall degree of skin improvement, ranging from -3 (very much worse) to +3 (very much improved)



HP VITARAN[®]

Headquarters: 13 Sinpyeong-ro, Jijeong-myeon, Wonju-si, Gangwon-do, Republic of Korea

Marketing & Research Center: #803, Building C, Hyundai Knowledge Industry Center, 7 Beobwon-ro 11-gil, Songpa-gu, Seoul, Republic of Korea

Manufacturer: BR PHARM Co., Ltd.

brpharm3@brpharm.com | +82-2-2148-6770 | www.brpharm.com

BR PHARM
www.brpharm.com