

Q-ERYTHRA™ Advanced PQNS Iron Technology for Blood Health and Energy Restoration

Organic Iron complexed with Phytosome Quantum Nano Sphere (PQNS) for optimal hemoglobin synthesis and enhanced cellular absorption.

 **Crassula**

 **QuanticSphere™**

Revolution in Mineral Nanotechnology

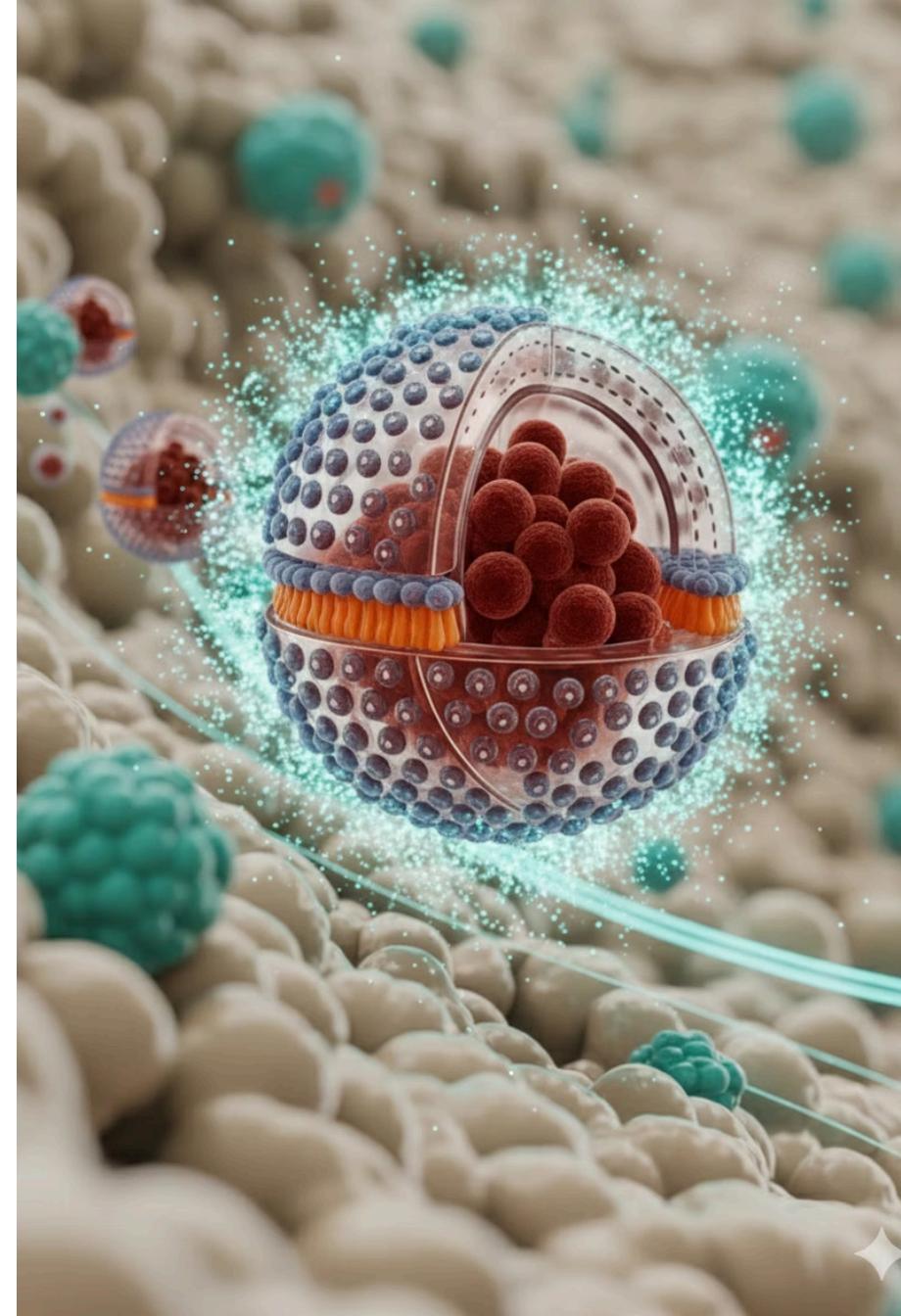
Q-Erythra™ introduces Ferrous Ascorbate PQNS, an innovative nano-encapsulated form of iron. Through Phytosome Quantum Nano Sphere technology, iron ions are encapsulated in positively charged phospholipid vesicles, allowing direct intestinal absorption and cellular targeting.

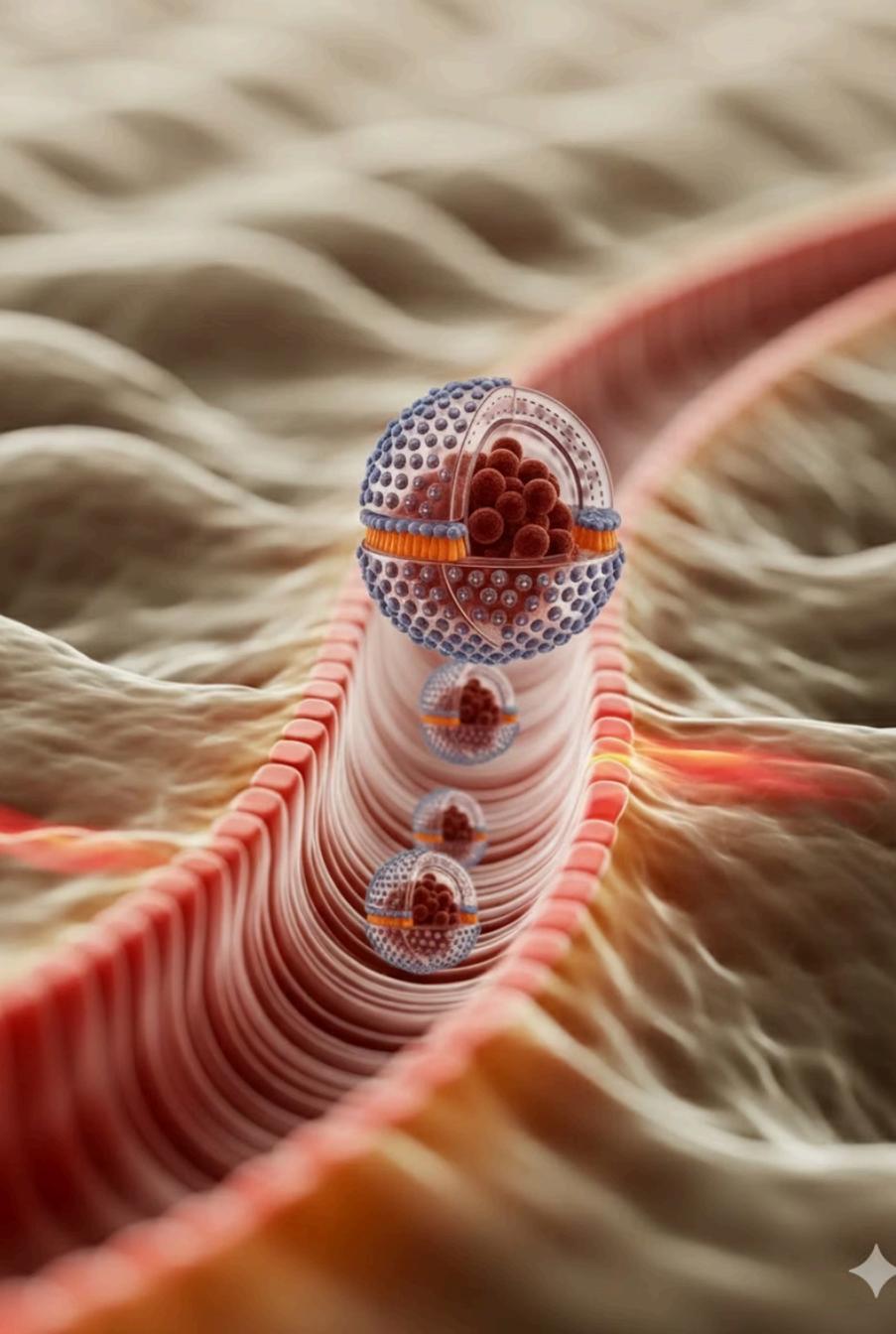
Enhanced absorption and reduced dose requirements

Improved gastrointestinal tolerance

Stable and controlled iron release

Performance excellence with lower toxicity





How PQNS Delivers Iron at the Cellular Level

PQNS nanominerals permeate transcellular and intercellular pathways using specific transporters:

- **DMT1** (Divalent Metal Transporter 1)
- **Ferroportin**
- **TRPML1** (Transient Receptor Potential Mucolipin 1)
- **Zip14** iron ion channel

These vesicles protect iron from oxidation and release it directly into epithelial cells, achieving **3.6× higher cellular retention**.

This mechanism enhances intracellular iron delivery and supports optimal hemoglobin synthesis.

Superior Cellular Uptake with PQNS Iron

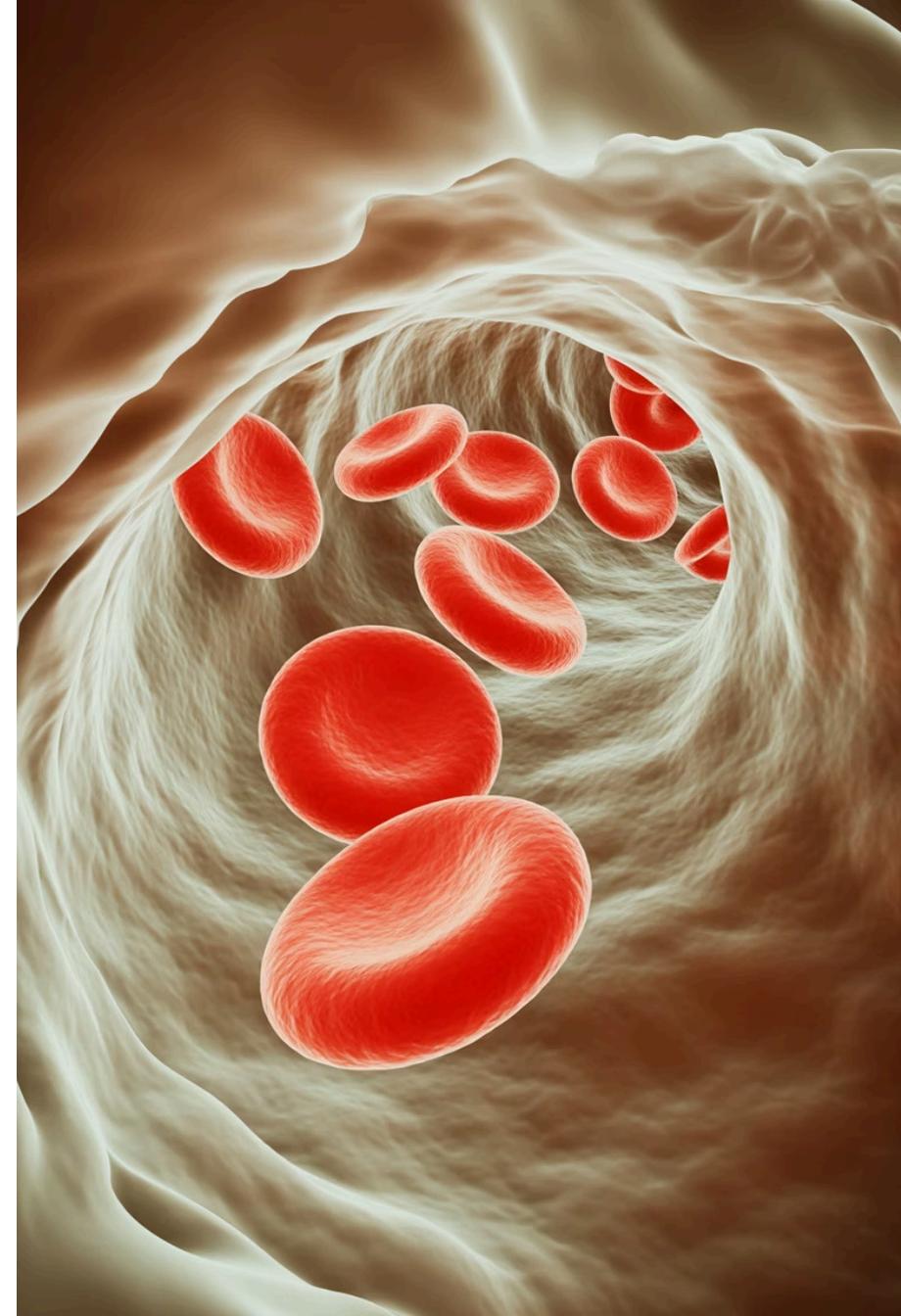
Study Setup:

- **Model:** Human epithelial Hep2 cells
- **Dose:** 200 & 500 ppm
- **Duration:** 6 hours at 37 °C, 5% CO₂
- **Measurement:** ICP-MS (intracellular mineral quantification)

Results:

- PQNS Ferrous Ascorbate → **>3× higher absorption** vs. standard ferrous ascorbate
- Significantly reduced free ion residues
- Improved intracellular bioavailability

These findings confirm PQNS Iron's superior bioavailability and intracellular retention compared to conventional iron forms.



Detailed Study Data — Cellular Absorption of Iron with Hep2 Human Epithelial Cells

Objective:

To evaluate and compare the intracellular absorption efficiency of Ferrous Ascorbate in standard and PQNS (Phytosome Quantum Nano Sphere) formulations using human epithelial (Hep2) cell models.

Methodology

Cell Model:

Human epithelial Hep2 cells cultured in standard growth medium at 37 °C and 5% CO₂.

Dosing:

Cells were treated with **200 ppm** and **500 ppm** concentrations of each formulation for 6 hours.

Formulations tested:

1. Ferrous Ascorbate (200 ppm)
2. Ferrous Ascorbate (500 ppm)
3. PQNS Ferrous Ascorbate (200 ppm)
4. PQNS Ferrous Ascorbate (500 ppm)

Procedure:

After incubation, cells were washed with PBS (phosphate-buffered saline) to remove unabsorbed extracellular minerals. Cells were then lysed, and intracellular iron content was quantified using **ICP-MS (Inductively Coupled Plasma Mass Spectrometry)**. Data were normalized per milligram of cellular protein to ensure comparability.

Replicates:

Each formulation was tested in **quadruplicate (n = 4)** to ensure reproducibility.

Results

Formulation	PPM	Mean Absorption (µg/mg protein)	SD	Replicates
Ferrous Ascorbate	200	1.0	0.25	4
Ferrous Ascorbate	500	1.3	0.27	4
PQNS Ferrous Ascorbate	200	3.0	0.35	4
PQNS Ferrous Ascorbate	500	3.9	0.37	4

Outcome:

PQNS Ferrous Ascorbate demonstrated **more than 3× higher intracellular iron absorption** compared to standard Ferrous Ascorbate at both concentrations tested.

Interpretation:

This enhanced absorption efficiency is attributed to the PQNS nanostructure, which improves solubility, stability, and cellular transport across epithelial membranes.

Conclusion

PQNS Technology significantly enhances intracellular delivery of iron, allowing **lower doses** to achieve the same or superior bioavailability compared to conventional formulations.

The study confirms the **efficacy and safety of the PQNS encapsulation system** for improving mineral absorption.

Beyond Iron Salts: The Power of PQNS Nanominerals

Traditional iron salts often fail to correct anemia effectively because of low absorption, poor stability, and lack of essential cofactors required for hemoglobin synthesis.

Q-Erythra™ integrates *Ferrous Ascorbate* within **PQNS nanotechnology**, an advanced encapsulation system that enhances absorption and cellular assimilation.

Unlike conventional iron, PQNS Iron delivers a **complete biological solution** by combining ferrous iron with essential nanominerals — **Zinc, Copper, and Cobalt** — all crucial for **heme formation and erythrocyte synthesis**.

This synergy improves the body's ability to convert iron into functional hemoglobin and ensures sustained results with minimal gastrointestinal discomfort.

Key Highlights

Organic and encapsulated form of iron

Includes Zn, Cu, and Co as catalytic nanominerals

Promotes heme and hemoglobin formation

Enhances erythrocyte synthesis and oxygen transport

Improves gastrointestinal tolerance and compliance

By combining advanced nanoscience with essential trace cofactors, PQNS Iron represents a holistic approach to restoring hematologic balance naturally.



Restoring Blood Health in 25 Days

Design:

- **Subjects:** 231
- **Duration:** 25 days (1 tablet/day)
- **Groups:** Six hemoglobin ranges (<7 to >11 g/dL)
- **Parameters:** Hemoglobin, RBC, WBC, Platelets, Serum Iron

Outcome:

- **Significant rise in Hemoglobin**
- **Increase in RBC, WBC & Platelet count**
- Correlation between serum iron and anemia recovery

Detailed Study: Clinical Evaluation of PQNS Iron

Objective: To clinically evaluate the efficacy of Q-Erythra™ (Ferrous Ascorbate PQNS) in improving hemoglobin and blood cell parameters in subjects with varying levels of anemia.

Study Design

Type: Open-label, single-arm clinical trial

Duration: 25 days

Subjects: 231 participants

Dosage: 1 tablet daily of Q-Erythra™ (Ferrous Ascorbate PQNS)

Group Classification: Subjects were divided into six hemoglobin ranges at baseline:

<7 g/dL	7–8 g/dL
8–9 g/dL	9–10 g/dL
10–11 g/dL	≥11 g/dL

Parameters Assessed:

Hemoglobin (Hb)	Red Blood Cells (RBC)	White Blood Cells (WBC)
Platelets	Serum Iron	

Inclusion Criteria: Subjects clinically diagnosed with anemia, eligible for oral supplementation.

Exclusion Criteria: Use of other iron or hematinic preparations during the study period.

Methodology

Blood samples were collected at baseline (Day 0) and after 25 days of daily supplementation. Parameters were analyzed using standard hematology and biochemical assays to measure changes in:

- Hemoglobin concentration (g/dL)
- RBC count (million/ μ L)
- WBC count ($\times 10^9$ /L)
- Platelet count ($\times 10^9$ /L)
- Serum iron concentration (μ g/dL)

Data were statistically evaluated using mean \pm SD, and changes were compared across hemoglobin groups to assess correlation between baseline anemia severity and response to supplementation.

Results Summary

Parameter	Observation After 25 Days	Outcome
Hemoglobin	Progressive increase across all Hb groups	Significant rise in Hb levels
RBC Count	Notable increase across all participants	Improved erythropoiesis
WBC Count	Mild but consistent improvement	Enhanced immune cell recovery
Platelets	Stable rise, indicating balanced hematopoiesis	Platelet normalization
Serum Iron	Strong positive correlation with Hb recovery	Indicates efficient iron utilization

Key Findings

- Hemoglobin increased significantly in all six groups within 25 days.
- RBC, WBC, and platelet counts improved consistently.
- Serum iron levels positively correlated with anemia correction.
- No significant adverse events were reported.

Conclusion

Daily supplementation with Q-Erythra™ (Ferrous Ascorbate PQNS) for 25 days resulted in a measurable improvement in hemoglobin, RBC, WBC, and platelet counts across a wide range of baseline anemia levels. The PQNS nanostructure facilitates controlled iron delivery, improved gastrointestinal tolerance, and efficient utilization for hemoglobin synthesis and blood cell regeneration.

Clinical Interpretation

The study confirms that PQNS technology enhances both bioavailability and functional efficacy of iron in vivo, achieving substantial improvement in blood parameters within less than a month. This supports Q-Erythra™ as a superior next-generation iron supplement for managing anemia safely and effectively.

How PQNS Iron Supports Hematopoiesis and Ferritin Restoration

PQNS Iron does more than enhance absorption – it supports the full hematopoietic process, restoring healthy blood formation and ferritin balance.

Through its sustained-release nanostructure, **Q-Erythra™** promotes natural erythropoiesis by facilitating iron delivery to the bone marrow, improving ferritin synthesis, and optimizing hemoglobin regeneration.

Its unique blend of vitamins and botanical co-factors enhances iron metabolism, hepcidin regulation, and red blood cell maturation.

Key Highlights

Enhances ferritin synthesis and storage

Stimulates erythropoiesis and red blood cell renewal

Regulates hepcidin for balanced iron absorption

Promotes faster recovery from anemia and fatigue

Prohemiaz Tablet Benefits

No stomach upset, heartburn, taste & teeth staining, vomiting & constipation.

Increases Hemoglobin & RBC counts.

Improves energy levels.

Stabilizes anemia control.

Beyond Conventional Iron Supplements

Attribute	PQNS Ferrous Ascorbate	Regular Ferrous Ascorbate
Bioavailability	High – Encapsulated & Protected	Moderate – Unstable in acid
GI Side Effects	Minimal	Frequent irritation
Stability	Controlled release	Rapid, uneven absorption
Efficacy	Faster Hb improvement	Slower response
Retention	3.6× higher cellular retention	Limited

Organic Iron with Synergistic Nutrients

Each Q-Erythra™ tablet contains:

PQNS Ferrous Ascorbate

(bioavailable iron)

Vitamin C, B12, and Folic Acid

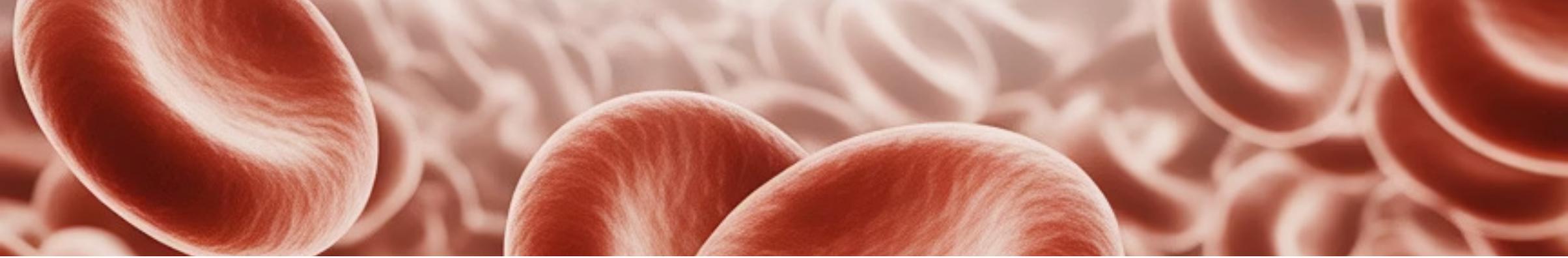
Zinc, Copper, Cobalt nanominerals

Phytochemicals

for hematopoietic stimulation

Functional synergy: Stimulates erythropoiesis, enhances ferritin synthesis, and rejuvenates blood oxygenation naturally.





Freedom from Fatigue. Balance Restored.

Q-Erythra™ is not just an iron tablet – it's a scientifically engineered solution to rebuild hemoglobin, vitality, and life balance through nanotechnology and natural actives.

"Rejuvenate health with enhanced iron absorption and cellular regeneration."



QuanticSphere™