Ferraso®-Lp

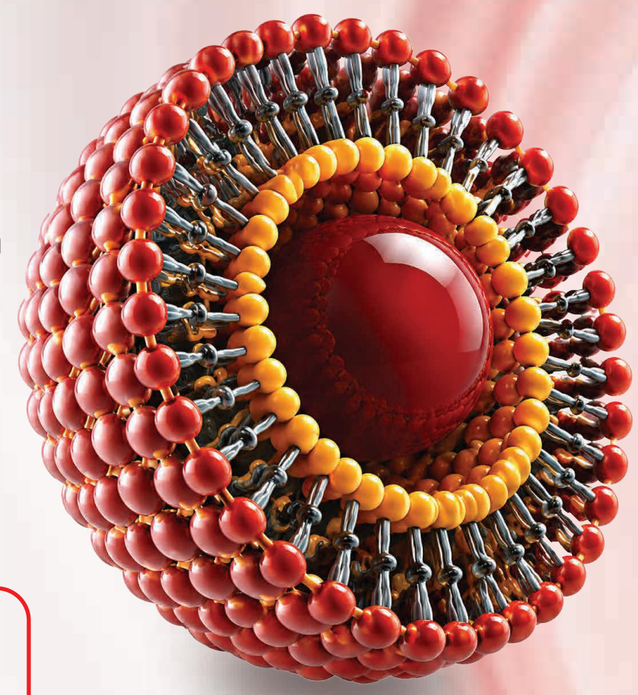
Ferric Pyrophosphate (Liposomal) 29mg, Ascorbic Acid 50mg,
Cyanocobalamin 0.75 mcg, Folic Acid 200mcg, Glycine 10mg Tablets

The Advanced Liposomal Shield for Maximum Iron Absorption

Conventional iron supplements often lead to poor patient compliance due to localized gastric irritation, distressing gastrointestinal side effects & a persistent metallic taste.

Ferraso LP features nanonized iron pyrophosphate encapsulated within a protective phospholipid bilayer membrane (Liposome). This advanced formulation bypasses traditional chemical breakdown in the stomach, protecting the delicate gastric mucosa & ensuring maximum absorption directly through the intestine.

Ferraso LP combines nanonized Liposomal Iron with critical hematinics (Vitamin C, B12 & Folic Acid) in an innovative encapsulated delivery system that protects the stomach & ensures superior hemoglobin rise.



Core Innovation: Nanonization & Microencapsulation

In Technical Collaboration with
Sudeep Pharma USA. Inc.
LIPOBOOST™

Bypasses Gastric Degradation:

The protective liposomal shell prevents direct contact between the iron molecules & the stomach lining, eliminating gastric irritation, nausea & abdominal pain.

Direct Intestinal Absorption:

Avoids the standard, restricted Divalent Metal Transporter-1 (DMT-1) iron transporters. The liposome structure is absorbed entirely via endocytosis through intestinal M-cells, maximizing systemic bioavailability.

Minimal GI Side Effects:

Does not cause conventional iron-induced complications like severe constipation, diarrhea or dark stools.

Indications

- Iron deficiency anemia (IDA)
- Pregnancy & lactation-induced anemia
- Dietary iron deficiency or malabsorption syndromes
- CKD-induced anemia
- Post-operative anemia

Dosage:

1 tablet daily or as strictly directed by a physician.
Can be taken at any time of the day - with or without meals.

A Promising Approach to Treat Anemia

1. Liposomal Iron (29 mg) - High-Bioavailability Core

- Delivers microencapsulated iron directly to the absorption sites.
- Clinically proven to elevate serum hemoglobin & ferritin levels up to 3.5 times faster than standard ferrous salts.
- The lipid membrane completely masks the bitter metallic taste of iron, ensuring high patient compliance.

2. Ascorbic Acid (50 mg) - The Absorption Catalyst

- Acts as a powerful cellular antioxidant that maintains iron in its highly absorbable state.
- Significantly enhances the efficiency of iron uptake within the body.

3. Cyanocobalamin (0.75 mcg) - RBC Maturation Factor

- Vital for proper DNA synthesis & cellular replication.
- Promotes the healthy maturation of Red Blood Cells (RBCs), preventing macrocytic anemia.

4. Folic Acid (200 mcg) - Erythropoiesis Support

- Drives active red blood cell production (erythropoiesis) in the bone marrow.
- Provides essential nutritional support required during pregnancy & lactation.

5. Glycine (10 mg) - The Heme Biosynthesis Catalyst

- Acts as the primary amino acid substrate required for the synthesis of ALA (Aminolevulinic acid) - the critical first step in hemoglobin production.
- Works in absolute metabolic synergy with the iron core to accelerate mature Red Blood Cell (RBC) structural formation.

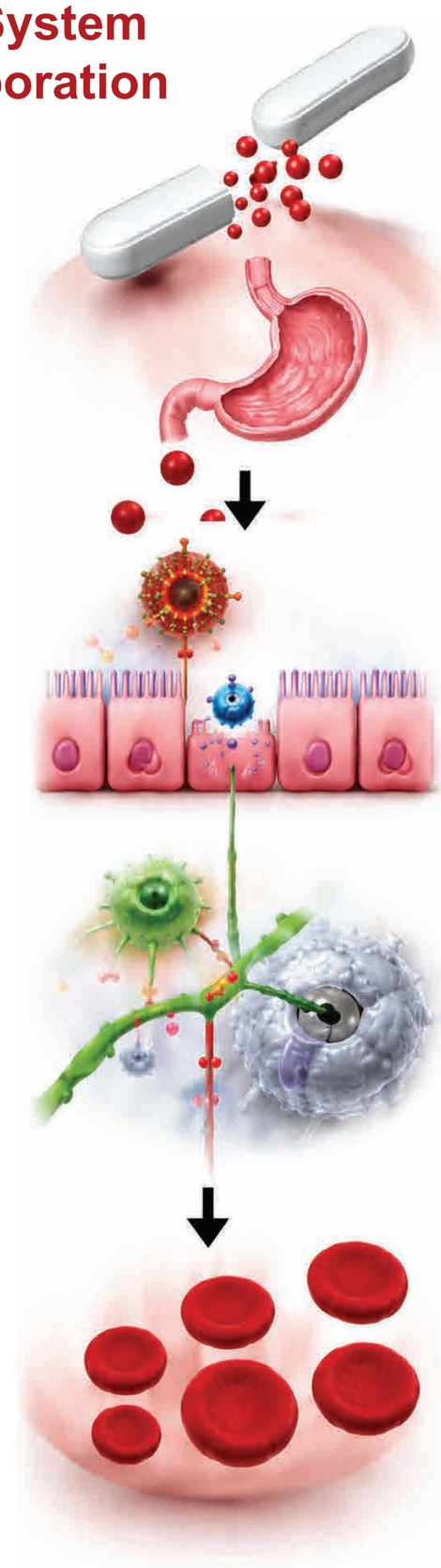
The Smartest Drug Delivery System for Faster Hemoglobin Incorporation

Gastric Protective Shielding:
Nanonized ferric pyrophosphate is encapsulated within a liposomal phospholipid bilayer, protecting the gastric mucosa & minimizing GI irritation.

Non-DMT1 Intestinal Uptake:
Liposomal iron bypasses conventional DMT1 transporters & is absorbed via M-cell mediated endocytosis, enhancing bioavailability.

Glycine-Mediated Metabolic Synergy:
Glycine supports the first & rate-limiting step of heme synthesis, promoting efficient hemoglobin formation.

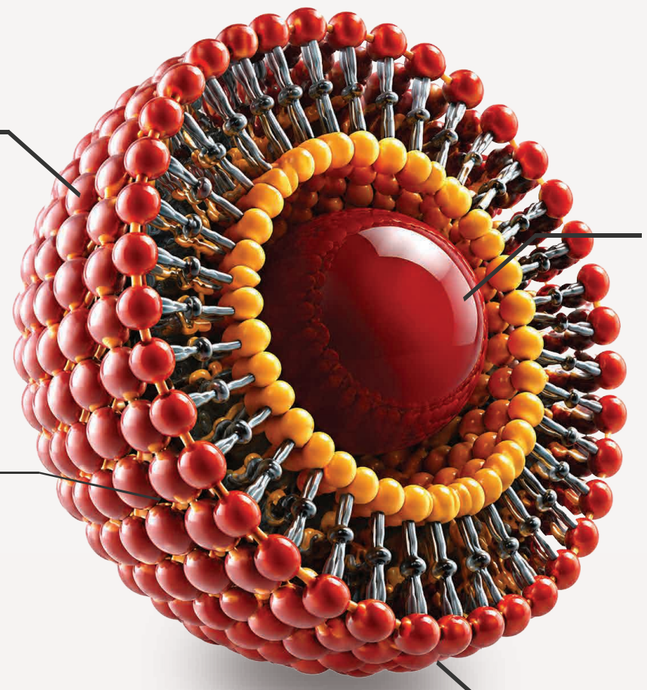
Targeted Iron Release:
Liposomes are processed through the reticuloendothelial system, enabling targeted iron delivery to the liver & bone marrow for hemoglobin incorporation.



Advantages of the Liposomal Vesicle

Phospholipid Bilayer Membrane Label:
Protects iron from gastric degradation, reducing gastric irritation & discomfort.

Targeted Absorption Vector Label:
M-cell mediated uptake bypasses DMT-1 transporters, enhancing iron bioavailability.



Hydrophilic Core Label:
Microencapsulated ferric pyrophosphate masks metallic taste, improving patient compliance.

Systemic Safety Shield Label:
Minimizes unabsorbed free iron, reducing constipation, abdominal discomfort & dark stools.

Clinical Trials

- **Superior Hemoglobin Recovery:**
  Liposomal iron has demonstrated faster improvement in hemoglobin & serum ferritin levels compared to conventional iron salts.[1]

- **Excellent Gastrointestinal Tolerability:**
  Clinical studies report superior patient compliance with minimal GI side effects such as constipation, nausea & bloating.[2]

- **High Efficacy in Chronic Kidney Disease (CKD):**
  Shown to safely improve hemoglobin levels in non-dialysis CKD patients with a favorable safety profile.[3]

Nonclinical Properties

- **Biocompatibility:** Phospholipid vesicle matches human cell membranes, integrating smoothly without cellular stress.
- **Zero Luminal Oxidation:** Liposomal isolation prevents interaction with dietary inhibitors (phytates, tannins, oxalates) to maintain stability.
- **Accelerated Heme Synthesis:** Microencapsulated iron combined with Glycine accelerates protoporphyrin IX conversion within mitochondria.

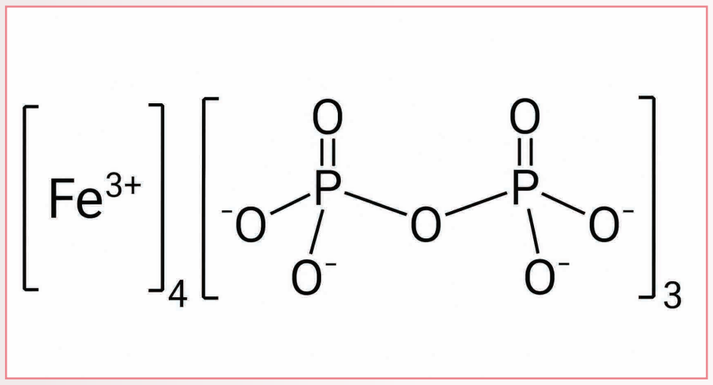
Pharmacokinetic Profile

- **Absorption:** Exceptionally rapid; utilizes lymphatic endocytosis instead of traditional ion channels for a faster Cmax.
- **Distribution:** High target-tissue specificity (liver, spleen, bone marrow); lipophilic shell prevents dangerous free-iron plasma spikes.
- **Bioavailability:** Up to 3.5-fold higher than standard ferrous salts, bridging the gap between oral & IV therapy.
- **Excretion:** High absorption minimizes intestinal waste, preventing the colon irritation & dark stools typical of traditional iron.

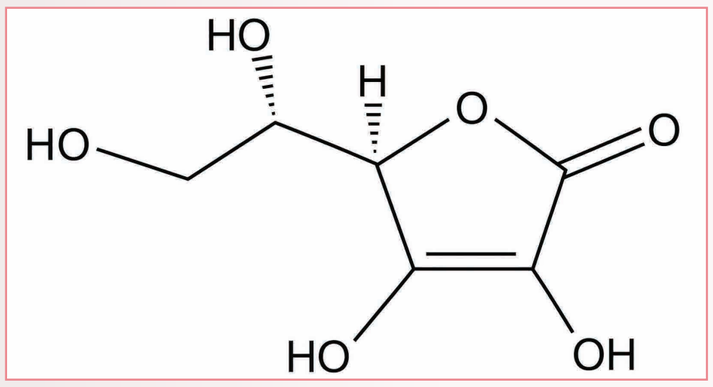
Minimal Mucosal Inflammation:

Animal biopsies confirm zero tissue inflammation, zero epithelial erosion & no disruption to gut microbiota.

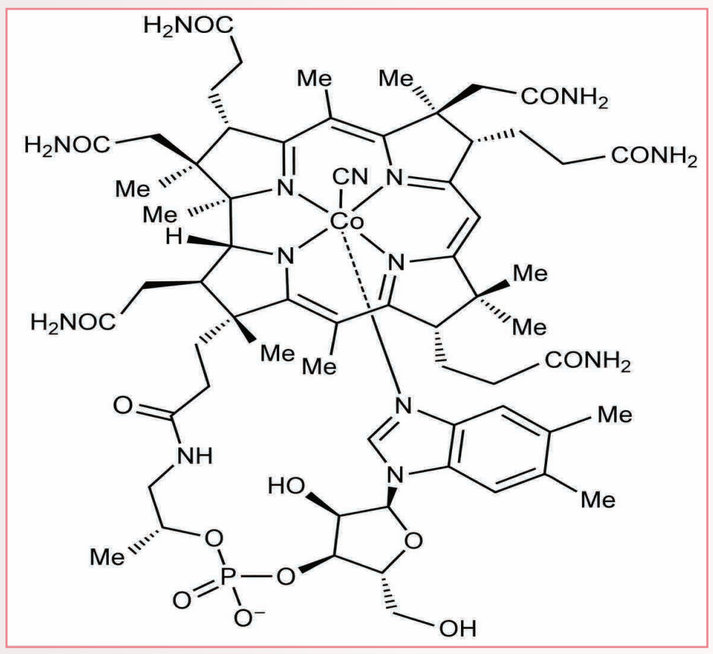
Molecular Structure



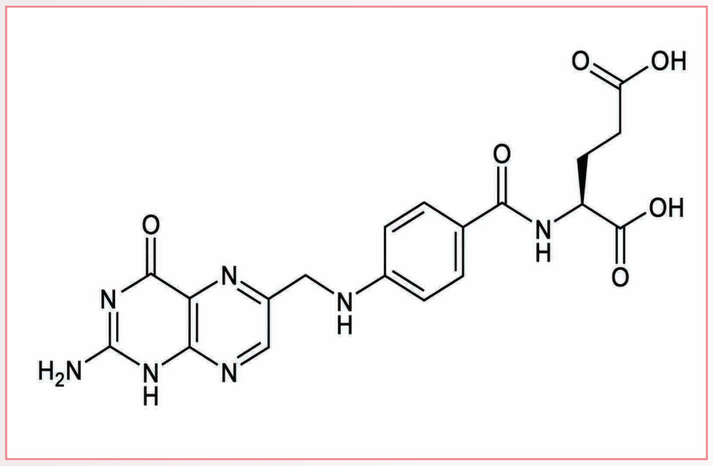
Ferric Pyrophosphate



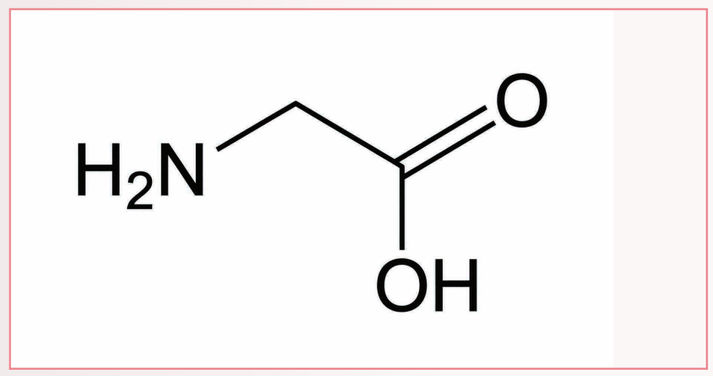
Ascorbic Acid



Cyanocobalamin (active form)



Folic Acid



Glycine

Ref 1: Pisani, A., et al. (2015), Journal of Nephrology, 28(5), 585-591.
Ref 2: Parisi, F., et al. (2017), The Journal of Maternal-Fetal & Neonatal Medicine, 30(17), 2119-2124.
Ref 3: Visciano, B., et al. (2013), Drugs in R&D, 13(1), 73-79.

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