



# Iron. Liberated.



A breakthrough in the treatment of iron deficiency!

A stable iron complex that allows controlled delivery of iron



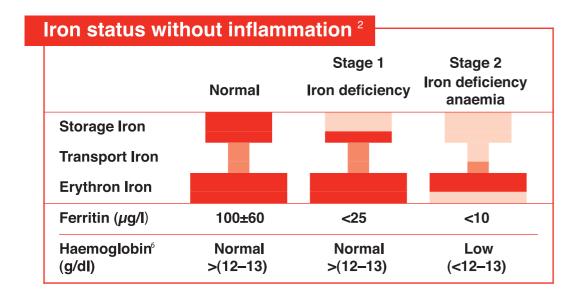




## Iron deficiency can result in anaemia

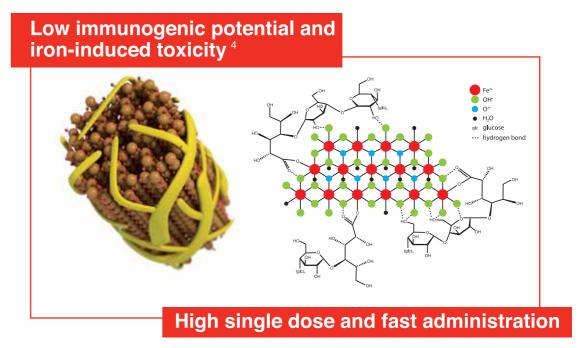
# Signs and symptoms of iron deficiency with or without anaemia 1,2

- Shortness of breath
- Chronic fatigue
- Reduced physical performance and endurance
- Decreased concentration span
- Reduced vitality
- Increased susceptibility for infections
- Pale skin colour, hair loss and brittle nails

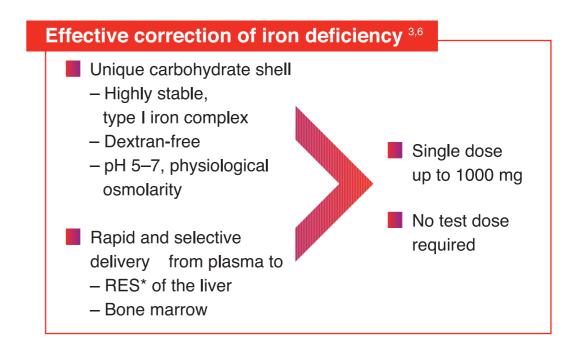


## Ferinject® – Breakthrough next generation I.V. iron

#### Ferric carboxymaltose



#### Designed to overcome current I.V. iron limitations

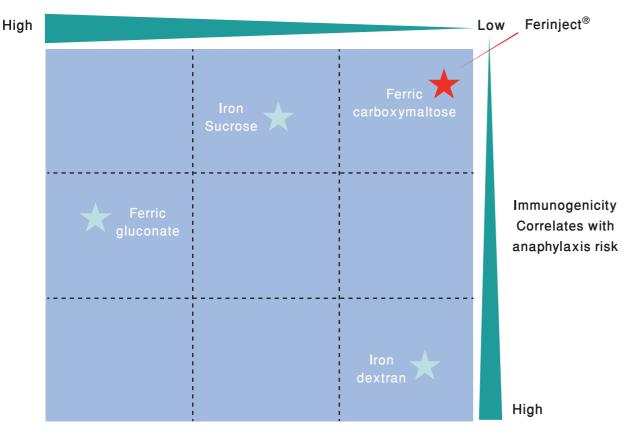


- Ferinject® does not contain immunogenic triggers 7
- Ferinject® does not cross-react with anti-dextran antibodies¹

# Low rate of injection site reactions due to a physiological pH and osmolarity

- Ferinject® has a near-neutral pH, limiting the likelihood of injection site reactions 7
- Ferinject® osmolarity is comparable to that of blood 8

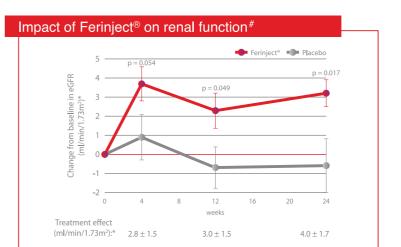
Ferric carboxymaltose, the active ingredient of Ferinject<sup>®</sup> is a stable complex free of dextran and its derivatives that allows delivery of up to 1,000 mg in 15 mins <sup>9</sup>



Balance of the risks for the development of oxidative stress reactions versus hypersensitivity reactions for parenteral iron preparations

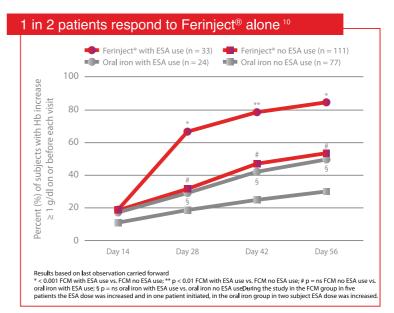
## Ferinject® improves renal function<sup>11</sup>





- Ferinject® significantly improved eGFR from week 12 onwards, compared with placebo
- The response to Ferinject® was independent of the level of renal function at the start of the study, age, gender, CHF severity, underlying CHF aetiology or the presence of anaemia

# Ferinject® optimizes iron deficiency anaemia management



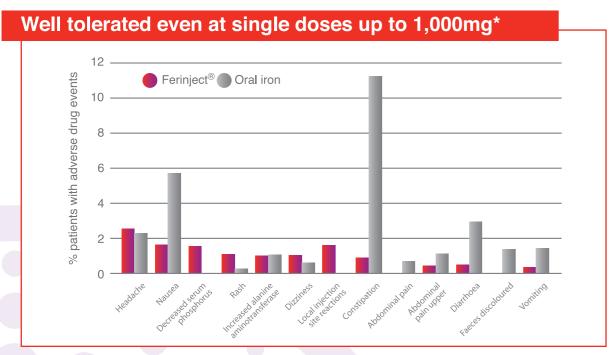
- Comparable Hb increase with Ferinject® alone vs. the oral iron + ESA group
- Significantly higher Hb increase in the Ferinject® + ESA group vs. the oral iron + ESA group
- "These data suggest, that some patients could be successfully treated with I.V. iron alone, thus reducing both the costs and the potential for adverse events related to ESA use"

Study design: Open-label, randomized, active-controlled, multicenter trial in 255 ND-CKD patients with iron deficiency anaemia. Inclusion criteria: Glomerular filtration rate (GFR)  $\leq$  45 ml/min/1.73m<sup>2</sup>; Haemoglobin (Hb) < 11 g/dl, Serum ferritin  $\leq$  300 ng/ml, Transferrin saturation (TSAT)  $\leq$  25%.

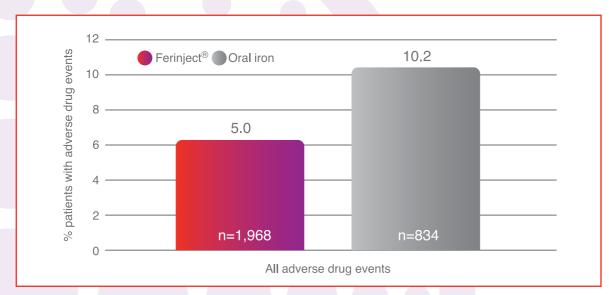
Primary objectives: % of patients achieving an increase in Hb ≥ 1 g/dl anytime during the study.

**Treatment regimen:** Ferinject® arm: first max. dose of 1000 mg iron i.v. over 15 min (with up to 2 additional doses of 500 mg iron i.v.). Oral iron (ferrous sulfat) arm: orally 325 mg (65 mg iron) three times a day throughout the study.

## Ferinject® – Favourable safety profile<sup>5</sup>



Ferinject® cumulative dose: ≥1,000 mg iron in 88% of patients (n = 1,736)



Pooled analysis of 10 multi-centre, randomised controlled clinical trials involving 2,800 patients until September 2007.

No serious drug related adverse events were observed <sup>5</sup>



- 1. Toblli JE, Silverberg D. Cardio-Renal Anaemia Syndrome, Basic and Clinical Aspects 2008; ISBN 978-987-23057-3-4.
- 2. Huch R, Schaefer R. Iron Deficiency and Iron Deficiency Anemia 2006. George Thieme Verlag. Stuttgart, 2006.
- 3. Danielson BG et al. Pharmacokinetics of Iron (III) Hydroxide Sucrose Complex after a Single Intravenous Dose in Healthy Volunteers. Drug Res 1996;46:615-619.
- 4. Crichton RB, Danielson BG, Geisser P. Iron therapy with a special emphasis on intravenous administration. 3rd Ed. UNI-MED Verlag AG. Bremen, 2006.
- 5. Qunibi W, Benjamin J, and Dinh Q. Tolerability profile of ferric carboxymaltose (FCM), a new high dose IV iron, across ten multi-center clinical trials. ASN (2007); Abstract SuPO1029.
- 6. Kulnigg, S, Stoinov S, Simanenkov V, et al. A novel intravenous iron formulation for treatment of anemia in inflammatory bowel disease: The ferric carboxymaltose (FERINJECT®) randomized controlled trial.

  Am J Gastroenterol 2007;102:1-11.
- 7. Ferinject® Summary of Product Characteristics.
- 8. MHRA. Public assessment report for Ferinject 50/mg Iron/ml solution for injection/infusion. July 2007. http://www.mhra.gov.uk/home/groups/l-unit 1/documents/websiteresources/con014025.pdf.
- 9. Quinibi et al. Drug research 2010:60(6a):399-412
- 10. Benjamin j. Poster M574 presented at WCN.2009
- 11. Ponikowski P.et al. The impact if intravenous ferric carboxymaltose on renal function: an analysis of the FAIR-HF study (abstract number 114). Presented at the Heart Failure Association meeting. Berlin Germany, 30 May 2010