

## PolyGalactoseMagnetite™

**Application Note 4:** PolyGalactoseMagnetite™ is supplied as a lyophilized powder containing 200 mg of iron. Reconstitute the product with 10 ml of distilled water to obtain a stable colloidal suspension containing 20 mg Fe/ml. PolyGalactoseMagnetite™ is based on the ultra-small superparamagnetic iron oxide (USPIO) reported by Josephson, *et al.* (1). PolyGalactoseMagnetite™ is surface functionalized with arabinogalactan and is cleared from the vascular compartment by the asialoglycoprotein receptor as evidenced by blood clearance inhibition by asialofetuin but not fetuin. PolyGalactoseMagnetite™ is not withdrawn from the vascular compartment by cells of the macrophage-monocyte phagocytic system. At 20 micromoles Fe/kg PolyGalactoseMagnetite™ darkens MR images of the liver. PolyGalactoseMagnetite™ exhibits no acute toxicity when injected into rats at 1800 micromoles Fe/kg.

**NOT FOR HUMAN USE.**

### Physical Properties of PolyGalactoseMagnetite™

Property	PolyGalactoseMagnetite™
Size (nm)	55
R1 (M <sup>-1</sup> sec <sup>-1</sup> )	2.1 x 10 <sup>4</sup>
R2 (M <sup>-1</sup> sec <sup>-1</sup> )	5.2x10 <sup>4</sup>
Magnetic susceptibility (c.g.s.)	39869x10 <sup>-6</sup>
Surface	Arabinogalactan
Total iron	200 mg

1. Josephson L, Groman EV, Menz E, Lewis JM, and Bengle H: A Functionalized superparamagnetic iron oxide colloid as a receptor directed MR contrast agent. *Magnetic Resonance Imaging* **8**, 637-646 (1990)

