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## Lipid based Iron Oxide Magnetic Nanocrystals with Amine (Catalog # ILA)

### Introduction

ILAs are lipid-coated iron oxide magnetic nanocrystals with amine groups on their surfaces. The overall thickness of the organic layers is about 1-2 nm. Their zeta potential is near neutral. The hydrodynamic size established using a Zeta Trac DLS is about 3-8 nm larger than the inorganic core size that is measured with TEM.

The amine groups can be used in conjugations with different molecules. Lipid-coated nanocrystals have excellent compatibility for *in vivo* studies because these are prepared with physiological lipids. ILAs show stability and resistance to aggregation in commonly used biocompatible buffers such as borate, Tris, HEPES, PBS and MES buffers, as well as in cell culture medium.

**Catalog number:** ILA

**Product name:** Lipid coated iron oxide nanocrystals with amine groups.

**Solvent:** DI H<sub>2</sub>O

**Surface Group:** amine

**Storage:** 4°C; Do not freeze.

**pH stability:** 2-14

**Buffer stability:** Borate, Tris, HEPES, PBS, MES etc.

**Cell medium stability:** RPMI1640, MEM, T-medium (with or without serum)

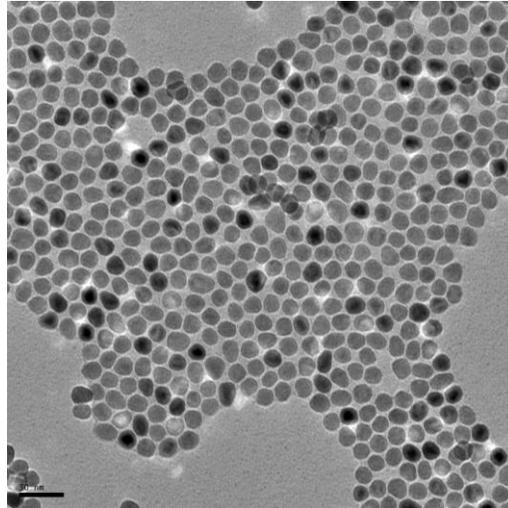
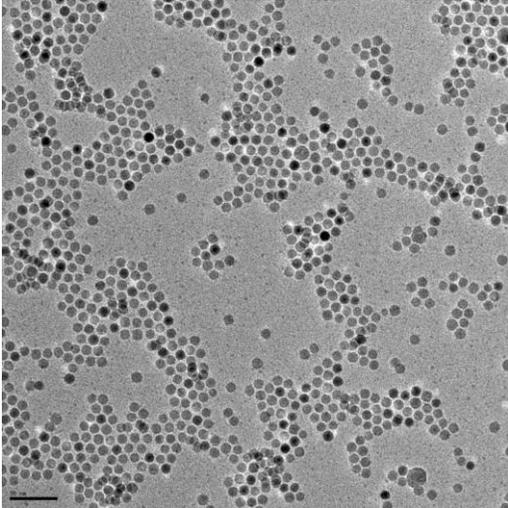
**Shelf life:** 3 months

**Concentration:** 1 mg/mL (Fe)

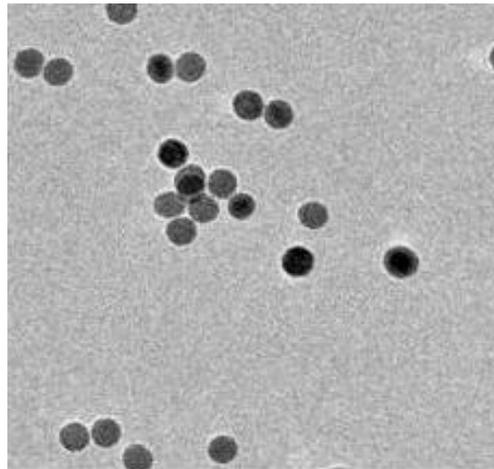
<b>IO size (nm)</b>	10	20	30
<b>Size tolerance (nm)</b>	2.5	2.5	2.5
<b>Size distribution</b>	<5%	<5%	<5%
<b>Molar concentration (uM) of 1 mg/mL (Fe)</b>	0.91	0.11	0.034
<b>Structure</b>	Maghemite	Magnetite	
<b>Chemical Formula</b>	Fe <sub>2</sub> O <sub>3</sub>	Fe <sub>3</sub> O <sub>4</sub>	

**TEM image of 10 nm IO nanocrystals**

**TEM image of 20 nm IO nanocrystals**



**TEM image of 30 nm IO nanocrystals**



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Current versions of product instructions are available at [www.oceannanotech.com](http://www.oceannanotech.com). For a faxed copy, call 479-751-5500.

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