

AclaF™ Iron Oxide Nanoparticles with Carboxylic Acid Group ([Catalog # SVP](#))

Description: SVP is a group of **autoclaved** water soluble iron oxide nanoparticles with amphiphilic polymer coating. SVP has been autoclaved at 121°C for 30 min, which is suitable for experiments that require enzyme-free conditions.

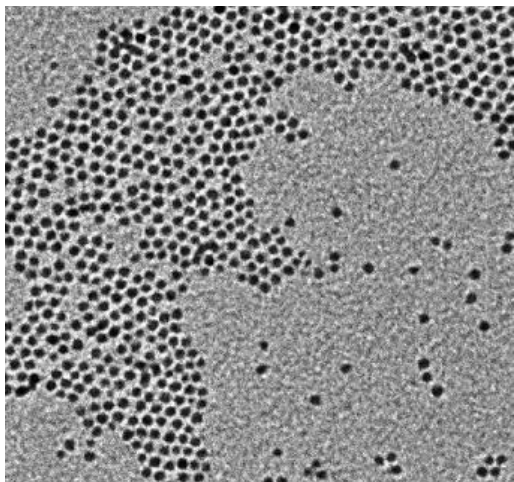
The reactive group of SVP is carboxylic acid and their zeta potential is from -30mV to -50mV. Their organic layers consist of a monolayer of oleic acid and a monolayer of amphiphilic polymer. The overall thickness of the organic layers is about 4 nm. The hydrodynamic size of the nanoparticles is about 8-10 nm larger than their inorganic core size measured by TEM. SVP is very stable in most buffer solutions in the pH range of 4-10.

SVP can be conjugated to protein, peptide and other amine containing biomolecules by following our standard Conjugation Protocol. Ocean NanoTech also offers a SVP-Protein Conjugation Kit which includes all crosslinking agents and autoclaved buffer solutions. If you need to perform SVP-protein conjugation, we recommend that you remove your original buffer solutions and use our Coupling Buffer to disperse your protein for the conjugation. Otherwise, precipitation may occur. If it's your first time to perform this conjugation, you may use BSA as a model protein to get familiar with the whole process.

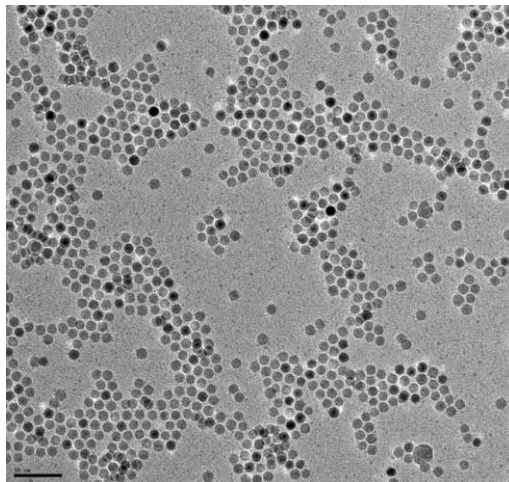
Catalog number:	SVP
Product name:	AclaF™ iron oxide nanoparticles with carboxylic acid group.
Solvent:	Autoclaved DI H ₂ O
Reactive group:	Carboxylic acid
Storage:	4-25°C; Do not freeze.
pH stability:	4-10
Buffer stability:	Stable in Borate, Tris, HEPES, PBS, MES.
Shelf life:	6 months
Concentration:	5 mg/mL (Fe)

IO size (nm):	5	10	15	20	25	30	40
Size tolerance (nm):	2.5	2.5	2.5	2.5	2.5	2.5	5
Size distribution:	<10%	<10%	<10%	<10%	<10%	<10%	<10%
Molar concentration (uM) of 5 mg/mL (Fe):	34.5	4.3	1.35	0.55	0.29	0.17	0.07
Structure:	Maghemite			Magnetite			
Chemical Formula:	Fe ₂ O ₃			Fe ₃ O ₄			

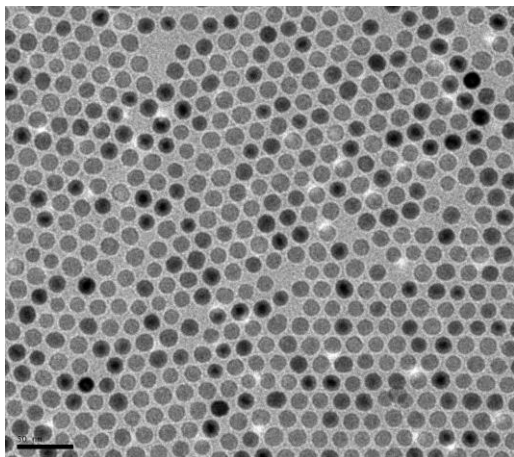
TEM image of 5 nm IO nanoparticles



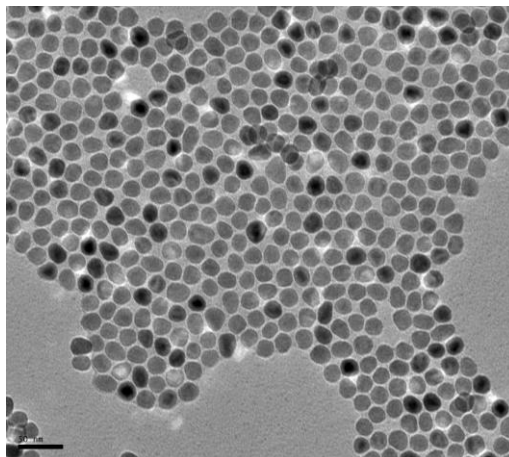
TEM image of 10 nm IO nanoparticles



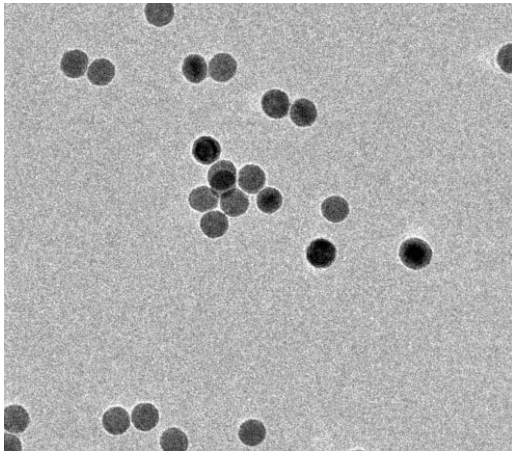
TEM image of 15 nm IO nanoparticles



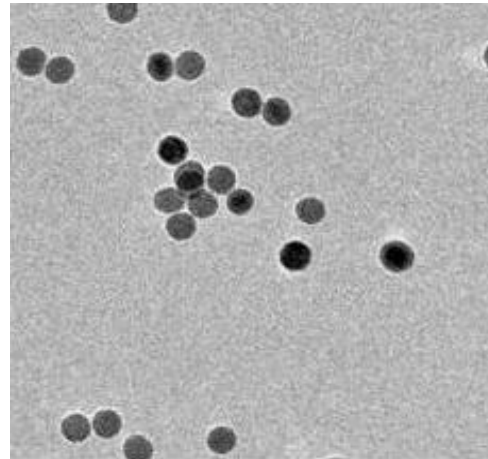
TEM image of 20 nm IO nanoparticles



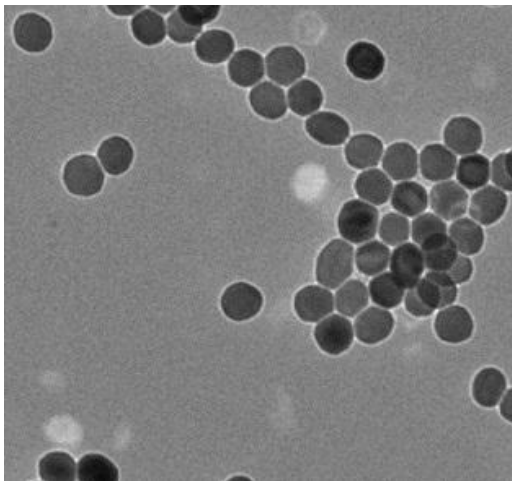
TEM image of 25 nm IO nanoparticles



TEM image of 30 nm IO nanoparticles



TEM image of 40 nm IO nanoparticles



Related Ocean NanoTech Products

Visit our web site for additional information related to this product including the following items:

SuperMag Separator™

ICK conjugation kit

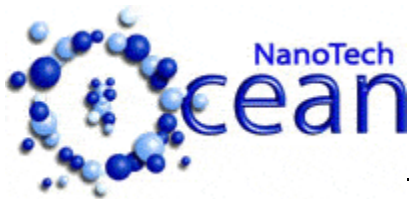
SHP, SYP, SXP, SHA, SMG, SEI, SHS, SHE, SHQ,

IPG, IAG, IAB, ILT, ILA, ILP, IRB, IDX

Prussian blue cell staining kit

Conjugations buffers

Rinsing buffers



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There is no obligation to replace Products as the result of (i) accident, disaster or event of force majeure, (ii) misuse, fault or negligence of or by Buyer, (iii) use of the Products in a manner for which they were not designed, or (iv) improper storage and handling of the Products.

Current versions of product instructions are available at www.oceannanotech.com. For a faxed copy, call 479-431-4130 or 479-751-5500.

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