Comprehensive MRI Product Price List

BioPAL provides MRI products to the biomedical research community. We offer a wide range of iron-based (T2 imaging agent) and gadolinium-based (T1 imaging agent) contrast reagents to the life-science community. BioPAL is a leading provider of novel MRI contrast reagents directed toward the needs of the life science community.

Table of Contents

Iron-Based T2 imaging contrast agents

Molday ION™ Family of Products **2-10**

Fe*Rex*™ **11**

Micro***TRACK***™ **12**

Ferro***TRACK*** ™ **13**

Molday **LION** ™ **14**

Gadolinium-Based T1 imaging contrast agents

Gado-DTPA ™ **15**

Galbumin™ Family of Products **16**

Gd-IgG **17**

Gadoluminate™ **18**

GADO**POLYLYSINE**™ **19**

Gado *CELL***Track**™ **20**

Evans Blue-DTPA-Gadolinium **21**

*PRO***Track**™ Gadolinium **22**

Gd-DTPA ELISA kits (FIT-MITT) **23**

Gd-DOTA ELISA kits (FIT-MITT) **24**

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Comprehensive MRI Product Price List

Molday ION™ product line is a family of iron oxide-based superparamagnetic contrast reagents designed to label cells and mark the vascular space. These MRI contrast reagents have a colloidal size of 30-50 nm and are classified as darkening agents acting through the T2 relaxation process.

Molday ION comes with many chemical surfaces and is presented below organized by applications. These applications are as follows:

Application 1: Vascular and Functional Imaging	Page 3
Application 2: Cell Labeling	Page 4
Application 3: Functional Chemistry for Conjugations	Page 5
Application 4: Receptor Targeting	Page 7
Application 5: Fluorescent Labeled Iron Oxides	Page 8
Application 6: Molecular Imaging	Page 9
Application 7: Molday ION Gycoprotein	Page 9
Application 8: Helpful Products for Staining and Fixing Iron-Labeled Cells	Page 10

BioPAL can also prepare custom nano-iron oxides. *Please Inquire!*

BioPAL is actively developing novel and innovative MRI products to assist the biomedical research community.

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NOT FOR HUMAN USE.

Application 1: Vascular and Functional Imaging

Catalog Number		
CL-30Q02-2	Molday ION™	$ 275.00

2.0 ml of 30 nm iron-based superparamagnetic contrast agent packaged in a 2 ml sealed serum bottle. 10 mg Fe/ml having a zeta potential of ~ -4.8mV. As an intravascular contrast agent, Molday ION has a blood half-life of several hours and can be used in a wide range of cardiovascular research applications.
Applications: MRI vascular/functional imaging, Blood pool agent, EM, Magnetic cell-sorting.
References: 1 and 2

CL-30Q02-A2	Molday ION™ Autoclaved	$ 300.00

2.0 ml of 30 nm iron-based superparamagnetic contrast agent packaged in a 2 ml sealed serum bottle and autoclaved. 10 mg Fe/ml having a zeta potential of ~ -4.8mV. As an intravascular contrast agent, Molday ION has a blood half-life of several hours and can be used in a wide range of cardiovascular research applications.
Applications: MRI vascular/functional imaging, Blood pool agent, EM, Magnetic cell-sorting.

CL-50Q02-2	Molday ION™	$ 275.00

2.0 ml of 46 nm iron-based superparamagnetic contrast agent packaged in a 2 ml sealed serum bottle. 10 mg Fe/ml having a zeta potential of ~ -5mV. Molday ION (~50 nm) can be used to complement studies obtained with Molday ION (30 nm) or where a larger nanoparticle is needed.
Applications: MRI vascular/functional imaging, Blood pool agent, EM, Magnetic cell-sorting.

CL-70Q02-2	Molday ION™	$ 275.00

2.0 ml of 70 nm iron-based superparamagnetic contrast agent packaged in a 2 ml sealed serum bottle. 10 mg Fe/ml having a zeta potential of ~ -5mV. Molday ION (70 nm) can be used to complement studies obtained with Molday ION (30 nm) or where a larger nanoparticle is needed.
Applications: MRI vascular/functional imaging, Blood pool agent, EM, Magnetic cell-sorting.

CL-20Q02-3	Molday ION Aminodextran™	$ 275.00

2.0 ml of 20 nm iron-based superparamagnetic contrast agent packaged in a 2 ml sealed serum bottle. 10 mg Fe/ml.
Applications: MRI vascular/functional imaging, Blood pool agent, EM, Magnetic cell-sorting.

CL-30Q02-5	Molday ION CLI**OH** ™	$ 475.00

2.0 ml of 30 nm iron-based superparamagnetic contrast agent having a neutral surface packaged in a 2 ml sealed serum bottle. 5 mg Fe/ml having a zeta potential of ~ 0mV.
Molday ION CLIOH is formulated to provide a stable neutral inert surface.

CL-30Q02-7	Molday ION Carboxyl™	$ 275.00

2.0 ml of 20 nm iron-based superparamagnetic contrast agent containing carboxyl groups packaged in a 2 ml sealed serum bottle. 10 mg Fe/ml having a zeta potential of ~ -20mV.
Applications: MRI vascular/functional imaging, EM, Magnetic cell-sorting.

CL-30Q02-6	Molday ION (-)™	$ 300.00

2.0 ml of 30 nm iron-based superparamagnetic contrast agent having a negative colloid surface packaged in a 2 ml sealed serum bottle. 10 mg Fe/ml having a zeta potential of ~ -15mV.
Molday ION (-) is formulated for labeling cells using Poly-L-Lysine.
Applications: Cell labeling, Cell labeling with MRI tracking, EM.

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CL-00-01 **Poly-L-Lysine** ..... $ 60.00
1.0 ml poly-l-lysine (10 mg/ml) packaged in a 2 ml sealed serum bottle.
Applications: For use with Molday ION (-) for the application of labeling cells
The procedure for labeling Poly-L-Lysine onto CL-30Q02-6 is provided as a separate PDF download on BioPAL's web site – **Application Note #1**.

CL-30Q02-6C **Molday ION Carboxyl Terminated™** ..... $ 395.00
2.0 ml of 30 nm iron-based superparamagnetic contrast agent containing carboxyl groups packaged in 2 ml sealed serum bottle. 2.5 mg Fe/ml, having a zeta potential of ~ -35 mV.
Applications: MRI, EM, Magnetic cell-sorting, Cell targeting, Conjugation – **Application Note #10**.

CL-30Q02-CA **Molday ION Carboxyl/Amine Terminated™** ..... $ 475.00
2.0 ml of 30 nm iron-based superparamagnetic contrast agent containing amine and carboxyl groups designed to approximate the surface of a protein packaged in a 2 ml serum bottle. 5 mg Fe/ml, having a zeta potential of ~ +4 mV.
Applications: MRI, EM, Magnetic cell-sorting, Cell labeling.

Application 2: Cell Labeling

Catalog Number

CL-50Q02-6A-0 **Molday ION™ Dye Free** ..... $ 375.00
2.0 ml of 35 nm iron-based superparamagnetic contrast agent with amine groups packaged in a 2 ml sealed serum bottle. 2 mg Fe/ml having a zeta potential of ~ +48 mV.
A suggested procedure for labeling cells is provided as a PDF download on BioPAL's web site.
Applications: Cell labeling, Cell labeling with MRI tracking, Drug delivery, Theranostics.
For additional information, please review **Application Note #7** on BioPAL Web Site.

CL-50Q02-A6A-0 **Molday ION™ Dye Free Autoclaved** ..... $ 450.00
2.0 ml of 35 nm iron-based superparamagnetic contrast agent with amine groups packaged in a 2 ml sealed serum bottle and autoclaved. 2 mg Fe/ml having a zeta potential of ~ +48 mV.
A suggested procedure for labeling cells is provided as a PDF download on BioPAL's web site.
Applications: Cell labeling, Cell labeling with MRI tracking, Drug delivery, Theranostics.
For additional information, please review **Application Note #7** on BioPAL Web Site.

CL-50Q01-6A-50 **Molday ION Rhodamine B™ (MIRB)** ..... $ 140.00
0.5 ml of 35 nm rhodamine B labeled iron-based superparamagnetic contrast agent packaged in a 2 ml sealed serum bottle. 2 mg Fe/ml having a zeta potential of ~ +31 mV.
A suggested procedure for labeling cells is provided as a PDF download on BioPAL's web site.
PDF downloads depicting labeled cells, as well as presented posters, is also provided.
Applications: Cell labeling, Cell labeling with MRI tracking, Live cell imaging (*in vitro*), Drug delivery, Theranostics, Fluorescent detection.
For additional information, please review **Application Note #3** on BioPAL Web Site.

CL-50Q02-6A-50 **Molday ION Rhodamine B™ (MIRB)** ..... $ 450.00
2.0 ml of 35 nm rhodamine B labeled iron-based superparamagnetic contrast agent packaged in a 2 ml sealed serum bottle. 2 mg Fe/ml having a zeta potential of ~ +31 mV.
A suggested procedure for labeling cells is provided as a PDF download on BioPAL's web site.
PDF downloads depicting labeled cells, as well as presented posters, is also provided.
Applications: Cell labeling, Cell labeling with MRI tracking, Live cell imaging (*in vitro*), Drug delivery, Theranostics, Fluorescent detection.
For additional information, please review **Application Note #3** on BioPAL Web Site.

CL-50Q02-6A-51 **Molday ION EverGreen™** ..... $ 450.00
2.0 ml of 35 nm EverGreen labeled iron-based superparamagnetic contrast agent packaged in a 2 ml sealed serum bottle. 2 mg Fe/ml having a zeta potential of ~ +31 mV.
Labeled cells may be visualized using a standard fluorescein filter set. Molday Ion EverGreen

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has an excitation and emission maxima at 498 nm and 526 nm, respectively.
Applications: Cell labeling, Cell labeling with MRI tracking, Live cell imaging (*in vitro*), Drug delivery, Theranostics, Fluorescent detection.
For additional information, please review **Application Note #3** on BioPAL Web Site.

CL-50Q02-6A-52 **Molday ION Coumarin™** ..... $ 450.00
2.0 ml of 35 nm Coumarin labeled iron-based superparamagnetic contrast agent packaged in a 2 ml sealed serum bottle. 2 mg Fe/ml having a zeta potential of ~ +30 mV. Labeled cells may be visualized using a standard DAPI filter set. Molday Ion Coumarin has an excitation and emission maxima at 356 nm and 456 nm, respectively.
Applications: Cell labeling, Cell labeling with MRI tracking, Live cell imaging (*in vitro*), Drug delivery, Theranostics, Fluorescent detection.
For additional information, please review **Application Note #3** on BioPAL Web Site.

CL-50Q01-6A-53 **Molday ION™ MI-750** ..... $ 400.00
1.0 ml of 40 nm Near IR dye labeled iron-based superparamagnetic contrast agent packaged in a 2 ml sealed serum bottle. 2 mg Fe/ml having a zeta potential of ~ +31 mV. Labeled cells may be visualized using NIR (Ex 750nm / Em 77 nm). .
Applications: Cell labeling, Cell labeling with MRI and NIR tracking, Live cell imaging (*in vitro*), Drug delivery, Theranostics, Fluorescent detection.
For additional information, please review **Application Note #3** on BioPAL Web Site.

CL-50Q02-6A-53 **Molday ION Rose Bengal™** ..... $ 450.00
2.0 ml of 35 nm Rose Bengal labeled iron-based superparamagnetic contrast agent packaged in a 2 ml sealed serum bottle. 2 mg Fe/ml having a zeta potential of ~ +31 mV.
A suggested procedure for labeling cells is provided as a PDF download on BioPAL's web site.
Applications: Cell labeling, Cell labeling with MRI tracking, Live cell imaging (*in vitro*), Drug delivery, Theranostics, Fluorescent detection.
For additional information, please review **Application Note #9** on BioPAL Web Site.

CL-50Q02-6S-51 **Molday SION EverGreen™** ..... $ 425.00
Molday SION is designed to minimize interference from Serum.
1.0 ml of 35 nm EverGreen labeled iron-based superparamagnetic contrast agent packaged in a 2 ml sealed serum bottle. 2 mg Fe/ml having a zeta potential of ~ +31 mV. Labeled cells may be visualized using a standard fluorescein filter set. Molday Ion EverGreen has an excitation and emission maxima at 498 nm and 526 nm, respectively.
Applications: Cell labeling, Cell labeling with MRI tracking, Live cell imaging (*in vitro*), Drug delivery, Theranostics, Fluorescent detection.
For additional information, please review **Application Note #3** on BioPAL Web Site.

CL-30Q02-6 **Molday ION (-)™** ..... $ 300.00
2.0 ml of 30 nm iron-based superparamagnetic contrast agent having a negative colloid surface packaged in a 2 ml sealed serum bottle. 10 mg Fe/ml having a zeta potential of ~ -15mV. Molday ION (-) is formulated for labeling cells using Poly-L-Lysine.
Applications: Cell labeling, Cell labeling with MRI tracking, EM.

CL-00-01 **Poly-L-Lysine** ..... $ 60.00
1.0 ml poly-l-lysine (10 mg/ml) packaged in a 2 ml sealed serum bottle.
Applications: For use with Molday ION (-) for the application of labeling cells
The procedure for labeling Poly-L-Lysine onto CL-30Q02-6 is provided as a separate PDF download on BioPAL's web site – **Application Note #1**.

CL-50Q02-71 **Molday ION Spermidine™** ..... $ 475.00
1.0 ml of 40 nm iron-based superparamagnetic contrast agent conjugated with spermidine packaged in a 2 ml sealed serum bottle. 1 mg Fe/ml having a zeta potential of ~ +35mV.
A suggested procedure for labeling cells is provided as a PDF download on BioPAL's web site (**Application Note #5**).
Applications: Cell labeling, Cell labeling with MRI tracking, EM, Magnetic cell-sorting, Drug delivery, Theranostics.

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Application 3: Functional Chemistry for Conjugations

Catalog Number

Molday ION Containing Reactive Amines

CL-50Q02-2A — Molday ION C2Amine™ ..... $ 475.00
2.0 ml of 35 nm iron-based superparamagnetic contrast agent with amine groups packaged in a 2 ml sealed serum bottle. 5 mg Fe/ml having a zeta potential of ~ +48 mV.
Applications: Conjugation with bifunctional agents, Click chemistry, NHS esters, Isothiocyanates.

CL-30Q02-CA — Molday ION Carboxyl/Amine Terminated™ ..... $ 475.00
2.0 ml of 30 nm iron-based superparamagnetic contrast agent containing amine and carboxyl groups designed to approximate the surface of a protein packaged in a 2 ml serum bottle. 5 mg Fe/ml, having a zeta potential of ~ +4 mV.
Applications: Conjugation with bifunctional agents, Click chemistry, NHS esters, Isothiocyanates.

CL-50Q02-15 — Molday ION Aromatic Amine™ ..... $ 395.00
2.0 ml of 40 nm iron-based superparamagnetic contrast agent containing aromatic amine groups packaged in a 2 ml sealed serum bottle. 2.5 mg Fe/ml having a zeta potential of ~ +48 mV. This nanoparticle is designed not to independently bind to or be internalized by cells. Therefore, cell labeling is achieved exclusively *via* your conjugated ligand.
Applications: After activation to an isothiocyanate this nanoparticle will react with amine containing compounds.

CL-50Q02-161 — Poly's L-Lysin Molday ION Amine Terminated™ ..... $ 475.00
2.0 ml of 40 nm iron-based 2.0 ml of 40 nm iron-based superparamagnetic contrast agent coated with L-lysine packaged in a 2 ml sealed serum bottle. 5 mg Fe/ml having a zeta potential of ~ +20 mV. The epsilon-amines groups of lysine are ideally suited for conjugation of ligands and macromolecules. This nanoparticle is designed not to independently bind to or be internalized by cells. Therefore, cell labeling is achieved exclusively via your conjugated ligand.
Applications: Conjugation of amine containing nanoparticles, MRI, EM, Drug delivery, Theranostics, Magnetic cell-sorting.

Molday ION Containing Reactive Carboxyls

CL-30Q02-6C — Molday ION Carboxyl Terminated™ ..... $ 395.00
2.0 ml of 30 nm iron-based superparamagnetic contrast agent designed for conjugating a ligand, peptide, antibody, or protein using water soluble carbodiimide packaged in a 2 ml sealed serum bottle. 2.5 mg Fe/ml, having a zeta potential of ~ -35 mV.
This nanoparticle is designed not to independently bind to or be internalized by cells. Therefore, cell labeling is achieved exclusively *via* your conjugated ligand. A suggested procedure for conjugation of amine containing compounds is provided as a PDF download on BioPAL's web site (**Application Note #5 and #10**).
Applications: Conjugation of amine containing compounds using water soluble carbodiimide, MRI, EM, Drug delivery, Theranostics, Magnetic cell-sorting.

CL-30Q02-CA — Molday ION Carboxyl/Amine Terminated™ ..... $ 475.00
2.0 ml of 30 nm iron-based superparamagnetic contrast agent containing amine and carboxyl groups designed to approximate the surface of a protein packaged in a 2 ml serum bottle. 5 mg Fe/ml, having a zeta potential of ~ +4 mV.
Applications: Conjugation with bifunctional agents, Click chemistry, NHS esters, Isothiocyanates.

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Molday ION Containing Other Reactive Groups

CL-30Q02-10 — Molday ION Aldehyde™ ..... $ 395.00

2.0 ml of 30 nm iron-based superparamagnetic contrast agent designed for conjugating amine containing ligand packaged in a 2 ml sealed serum bottle. 2.5 mg Fe/ml having a zeta potential of ~ -35 mV.
A suggested procedure for labeling cells is provided as a PDF download on BioPAL's web site.
Applications: Labeling liposomes, preparation of ferrosomes, Cell labeling.
References: 3 and 4

CL-50Q02-162 — Poly's L-Tyrosine Molday ION Phenol Terminated™ ..... $ 475.00

2.0 ml of 40 nm iron-based superparamagnetic contrast agent coated with L-tyrosine packaged in a 2 ml sealed serum bottle. 5 mg Fe/ml having a zeta potential of ~ -5 mV.
The phenol group of tyrosine is ideally suited for applications as a substrate for tyrosine kinases, iodination with 124-I (PET), 125-I (metabolic studies), and 127-I (CT). This nanoparticle is designed not to independently bind to or be internalized by cells. Therefore, cell labeling is achieved exclusively via your conjugated ligand.
Applications: MRI, PET, CT, Metabolism studies, EM, Drug delivery, Theranostics.

Application 4: Receptor Targets

Catalog Number

CL-50Q02-6C-54 — Molday ION **Biotin**™ ..... $ 475.00

1.0 ml of 40 nm iron-based superparamagnetic contrast agent conjugated with Biotin packaged in a 2 ml sealed serum bottle. 1 mg Fe/ml having a zeta potential of ~ -35mV. CL-50Q02-6C-54 reacts with streptavidin as shown by receptor double diffusion. Biotin Is conjugated to Molday ION using an extended linker.
Applications: Biotin-Streptavidin conjugation strategies, Cell labeling, Cell labeling with MRI tracking, Tumor tracking, EM, Magnetic cell-sorting, Drug delivery, Theranostics.

CL-50Q01-6C-54 — Molday ION **Biotin PEG**™ ..... $ 495.00

1.0 ml of 40 nm iron-based superparamagnetic contrast agent conjugated with Biotin packaged in a 2 ml sealed serum bottle. 1 mg Fe/ml. CL-50Q01-6C-54 reacts with streptavidin as shown by receptor double diffusion. Biotin Is conjugated to Molday ION through a PEG extended linker.
Applications: Biotin-Streptavidin conjugation strategies, Cell labeling, Cell labeling with MRI tracking, Tumor tracking, EM, Magnetic cell-sorting, Drug delivery, Theranostics.

CL-160Q01-22 — Molday ION **StreptAvidin**™ ..... $ 550.00

1.0 mg of Fe of 160 nm iron-based superparamagnetic contrast agent conjugated with Streptavin packaged in a 2 ml sealed serum bottle. CL-160Q01-22 reacts with biotin-fluorescein as shown by fluorescent measurements.
Applications: Biotin-Streptavidin conjugation strategies, Cell labeling, Cell labeling with MRI tracking, Tumor tracking, EM, Magnetic cell-sorting, Drug delivery, Theranostics.

CL-100Q01-21 — Molday ION **GAM**™ ..... $ 550.00

1.0 ml of 100 nm iron-based superparamagnetic contrast agent conjugated with Goat anit-mouse IgG packaged in a 2 ml sealed serum bottle. 2 mg Fe/ml.
CL-100Q01-21 reacts with mouse IgG-fluorescein as shown by fluorescent measurements.
Applications: Mouse-IgG conjugation strategies, Cell labeling, Cell labeling with MRI tracking, Tumor tracking, EM, Magnetic cell-sorting, Drug delivery, Theranostics.

CL-50Q02-71 — Molday ION **Spermidine**™ ..... $ 475.00

1.0 ml of 40 nm iron-based superparamagnetic contrast agent conjugated with spermidine packaged in a 2 ml sealed serum bottle. 1 mg Fe/ml having a zeta potential of ~ +35mV.
CL-50Q02-71 enters cells via the polyamine receptor.
Applications: Cell labeling, Cell labeling with MRI tracking, EM, Magnetic cell-sorting, Drug delivery, Theranostics.

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MR-7100 PolyGalactose*Magnetite*™ ..... $ 375.00
Packaged as 200 mg powder in a 10 ml sealed serum bottle.
For additional information, please see **Application Note #4**.

Application 5: Fluorescent Labeled Iron Oxides

Catalog Number

CL-50Q01-6A-50 Molday ION **Rhodamine B**™ (MIRB) .....$ 140.00
0.5 ml of 35 nm rhodamine B labeled iron-based superparamagnetic contrast agent packaged in a 2 ml sealed serum bottle. 2 mg Fe/ml having a zeta potential of ~ +31 mV.
A suggested procedure for labeling cells is provided as a PDF download on BioPAL's web site.
PDF downloads depicting labeled cells, as well as presented posters, is also provided.
Applications: Cell labeling, Cell labeling with MRI tracking, Live cell imaging (*in vitro*), Drug delivery, Theranostics, Fluorescent detection.
For additional information, please review **Application Note #3** on BioPAL Web Site.

CL-50Q02-6A-50 Molday ION **Rhodamine B**™ (MIRB) .....$ 450.00
2.0 ml of 35 nm rhodamine B labeled iron-based superparamagnetic contrast agent packaged in a 2 ml sealed serum bottle. 2 mg Fe/ml having a zeta potential of ~+31 mV.
A suggested procedure for labeling cells is provided as a PDF download on BioPAL's web site (**Application Note #3**).
PDF downloads depicting labeled cells, as well as presented posters, is also provided.
Applications: Cell labeling, Cell labeling combined with MRI and fluorescent tracking, EM, Magnetic cell-sorting, Drug delivery, Theranostics.

CL-50Q02-6A-51 Molday ION **EverGreen**™ .....$ 450.00
2.0 ml of 35 nm EverGreen labeled iron-based superparamagnetic contrast agent packaged in a 2 ml sealed serum bottle. 2 mg Fe/ml having a zeta potential of ~+31 mV.
Labeled cells may be visualized using a standard fluorescein filter set. Molday Ion EverGreen has an excitation and emission maxima at 498 nm and 526 nm, respectively.
Applications: Cell labeling, Cell labeling combined with MRI and fluorescent tracking, EM, Magnetic cell-sorting, Drug delivery, Theranostics.

CL-50Q02-6A-52 Molday ION **Coumarin**™ .....$ 450.00
2.0 ml of 35 nm Coumarin labeled iron-based superparamagnetic contrast agent packaged in a 2 ml sealed serum bottle. 2 mg Fe/ml having a zeta potential of ~ +30 mV.
Labeled cells may be visualized using a standard DAPI filter set. Molday Ion Coumarin has an excitation and emission maxima at 356 nm and 456 nm, respectively.
Applications: Cell labeling, Cell labeling with MRI tracking, Live cell imaging (*in vitro*), Drug delivery, Theranostics, Fluorescent detection.
For additional information, please review **Application Note #3** on BioPAL Web Site.

CL-50Q01-6A-53 Molday ION™ MI-750 .....$ 400.00
1.0 ml of 40 nm Near IR dye labeled iron-based superparamagnetic contrast agent packaged in a 2 ml sealed serum bottle. 2 mg Fe/ml having a zeta potential of ~ +31 mV.
Labeled cells may be visualized using NIR (Ex 750nm / Em 77 nm). .
Applications: Cell labeling, Cell labeling with MRI and NIR tracking, Live cell imaging (*in vitro*), Drug delivery, Theranostics, Fluorescent detection.
For additional information, please review **Application Note #3** on BioPAL Web Site

CL-50Q02-6C-50 Molday ION **Rhodamine B** Carboxyl™ .....$ 450.00
2.0 ml of 35 nm rhodamine B labeled iron-based superparamagnetic contrast agent designed for conjugating a ligand, peptide, antibody, or protein using water soluble carbodiimide

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packaged in a 2 ml sealed serum bottle. 2 mg Fe/ml having a zeta potential of ~ -35 mV. This nanoparticle is designed not to independently bind to or be internalized by cells. Therefore, cell labeling is achieved exclusively *via* your conjugated ligand. A suggested procedure for conjugation of amine containing compounds is provided as a PDF download on BioPAL's web site (**Application Note #5**).
Applications: Conjugation of amine containing compounds using water soluble carbodiimide, MRI, EM, Drug delivery, Theranostics, Magnetic cell-sorting.

CL-50Q02-CA-50 Molday ION Carboxyl/Amine **Rhodamine B™** .....$ 450.00
2.0 ml of 50 nm rhodamine B labeled iron-based superparamagnetic contrast agent containing amine and carboxyl groups designed to approximate the surface of a protein packaged in a 2 ml sealed serum bottle. 2 mg Fe/ml having a zeta potential of ~ +4 mV.
Applications: MRI, EM, Fluorescent detection, Magnetic cell-sorting.

Application 6: Molecular Imaging

Catalog Number

CL-50Q02-6C-54 Molday ION **Biotin™** .....$ 475.00
1.0 ml of 40 nm iron-based superparamagnetic contrast agent conjugated with Biotin packaged in a 2 ml sealed serum bottle. 1 mg Fe/ml having a zeta potential of ~-35mV. CL-50Q02-6C-54 reacts with streptavidin as shown by receptor double diffusion. Biotin Is conjugated to Molday ION using an extended linker.
Applications: Biotin-Streptavidin conjugation strategies, Cell labeling, Cell labeling with MRI tracking, Tumor tracking, EM, Magnetic cell-sorting, Drug delivery, Theranostics.

CL-50Q01-6C-54 Molday ION **Biotin PEG™** .....$ 495.00
1.0 ml of 40 nm iron-based superparamagnetic contrast agent conjugated with Biotin packaged in a 2 ml sealed serum bottle. 1 mg Fe/ml. CL-50Q01-6C-54 reacts with streptavidin as shown by receptor double diffusion. Biotin Is conjugated to Molday ION through a PEG extended linker.
Applications: Biotin-Streptavidin conjugation strategies, Cell labeling, Cell labeling with MRI tracking, Tumor tracking, EM, Magnetic cell-sorting, Drug delivery, Theranostics.

CL-160Q01-22 Molday ION **StreptAvidin™** .....$ 550.00
1.0 ml of 160 nm iron-based superparamagnetic contrast agent conjugated with Streptavin packaged in a 2 ml sealed serum bottle. 1.6 mg Fe/ml. CL-160Q01-22 reacts with biotin-fluorescein as shown by fluorescent measurements.
Applications: Biotin-Streptavidin conjugation strategies, Cell labeling, Cell labeling with MRI tracking, Tumor tracking, EM, Magnetic cell-sorting, Drug delivery, Theranostics.

CL-100Q01-21 Molday ION **GAM™** .....$ 550.00
1.0 ml of 100 nm iron-based superparamagnetic contrast agent conjugated with Goat anit-mouse IgG packaged in a 2 ml sealed serum bottle. 2 mg Fe/ml.
CL-100Q01-21 reacts with mouse IgG-fluorescein as shown by fluorescent measurements.
Applications: Mouse-IgG conjugation strategies, Cell labeling, Cell labeling with MRI tracking, Tumor tracking, EM, Magnetic cell-sorting, Drug delivery, Theranostics.

Application 7: Molday ION Gycoprotien

Catalog

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Number

CL-50Q01-OVA — Molday ION™ Ovalbumin ..... $ 400.00
1.0 ml of 40 nm iron-based superparamagnetic contrast agent conjugated with ovalbumin packaged in a 2 ml sealed serum bottle. 1 mg Fe/ml having a zeta potential of ~-11mV. Quality control by ovalbumin ELISA.

FIT-0615 — Egg Ovalbumin ELISA Kit ..... $ 200.00
The kit contains ovalbumin concentrate, ovalbumin antiserum, goat anti-rabbit IgG-HRP, HRP substrate and stop reagents, an ovalbumin 96 well coated plate, two plate sealers, FIT-GFR Inulin kit manual and documentation.

Application 8: Helpful Products for Staining and Fixing Iron-Labeled Cells

Catalog Number

CL-01-50 — Prussian Blue Reagent Pack ..... $ 65.00
Pack consists of Reagent A (50 ml) and Reagent B (50 ml) plus phosphate buffered saline (100 ml). BioPAL's Prussian Blue Reagent Pack has been formulated for visualizing cells labeled with Molday ION family of products. It can also be used for visualizing cells labeled with other iron containing compounds, such as ferritin.
Applications: For visualizing iron-labeled cells.
The procedure for Prussian Blue staining of iron-labeled cells is provided as a separate PDF download on BioPAL's web site (**Application Note #7**).

CL-01-51 — PBS++ ..... $ 45.00
Phosphate buffered saline supplemented with (0.1 g/L $CaCl_2$) and (0.1 g/L $MgCl_2$).
Amount 100 ml, Store at 4°C.
Applications: Cell Fixation.
The procedure for fixing cells is provided as a separate PDF download on BioPAL's web site (**Application Note #3**).

CL-01-52 — 25% Glutaraldehyde ..... $ 30.00
Amount 5 ml, Store at 4°C.
Applications: Cell Fixation.
The procedure for fixing cells is provided as a separate PDF download on BioPAL's web site (**Application Note #6**).

CL-01-53 — 40% Formalin ..... $ 30.00
Amount 5 ml, Store at 4°C.
Applications: Cell Fixation.
The procedure for fixing cells is provided as a separate PDF download on BioPAL's web site (**Application Note #6**).

References

1. JuanYin J, Tracy K, Zhang L, Munasinghe J, Shapiro E, Koretsky A, *et al*.: Noninvasive imaging of the functional effects of anti-VEGF therapy on tumor cell extravasation and regional blood volume in an experimental brain metastasis model. *Clin Exp Metastasis* (2009) **26**; 403-14.
2. Lee J, Hirano Y, Fukunaga M, Silva A, and Dyun, JH: Investigating the sources of phase contrast: iron oxide nanoparticle study to exclude deoxyhemoglobin as a major source for the gray/white matter phase contrast. *NeuroImage* (2009) **47** Supplement 1, S39-S41.
3. Bogdanov AA, Jr., Martin C, Weissleder R, Brady TJ: Trapping of dextran-coated colloids in liposomes by transient binding to aminophospholipid: preparation of ferrosomes. *Biochim Biophys Acta* (1994) **1193**; 212-8.
4. Groman EV, Yang M, Reinhardt, CP, Weinberg, JS, Vaccaro, DE: Polycationic Nanoparticles: (1) Synthesis of a Polylysine-MION Conjugate and its Application in Labeling Fibroblasts. *J of Cardiovasc Trans Res* (2009) **2**; 30-38.

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Fe*Rex*™ is a superparamagnetic magnetite. This reagent is calassified as a darkening reagent acting through the T2 relaxation process. Fe*Rex* can be used as an MRI contrast reagent.

References
1. *J Immunol Methods* 1982 **52**(3):353-367.
2. *FEBS Letters* 1984 **170**(2):282-238.
3. *J Aerosol Med Pulmonary Drug Delivery* 2008 **21**(4):335-341.

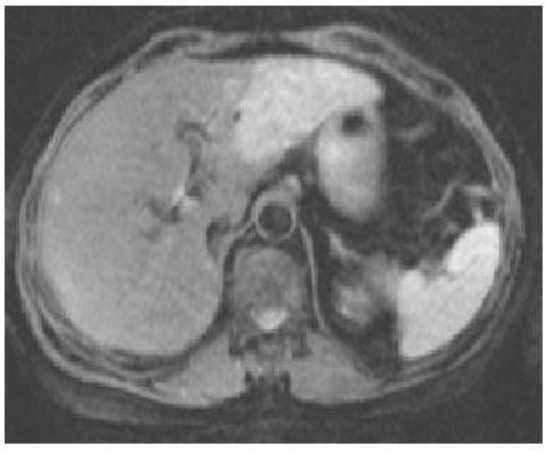
NOT FOR HUMAN USE.

Superparamagnetic Magnetite

Catalog Number

MR-7200 Fe*Rex* .....$ 400.00

2.0 ml sealed serum bottle at a concentration of 10 mg Fe/ml.
NOT FOR HUMAN USE.
Assay Method: MRI and EM.



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Comprehensive MRI Product Price List

The twenty-first century began with the completion of the human genome project and the dawn of proteomics and systems-biology. These emerging fields will attempt to understand how newly discovered proteins impact human physiology and disease. As researchers progress from molecular- and cellular-based studies to *in vivo* systems, innovative technologies are needed to allow multiple tracking of probes and multiple measurements of functional parameters in *in vivo* models. One arena of research that has emerged due to recent discoveries has been the field of cellular transplantation.

BioPAL has developed a biodegradable 1µm superparamagnetic particles and a long-lived (non-biodegradable) superparamagnetic 1 µm microsphere for applications in cell labeling and drug delivery experiments for MRI technology. These reagents are classified as a darkening agent acting through the T2 relaxation process.

NOT FOR HUMAN USE.

1 µm Iron-Labeled Particles and Microspheres

Catalog Number		
	Biodegradable	
CL-01Q02-B	Micro***TRACK***™	$ 100.00
	1 µm biodegradable iron microparticles. 1 ml packaged in a 2 ml sealed serum bottle, containing approximately 8.4 billion particles. Particles are packaged in an aqueous suspension at 25 mg Fe/ml.	
CL-01Q02-B-A	Micro***TRACK***™ Amine-terminated	$ 150.00
	1 µm (± 0.5 µm) silane-coated, biodegradable iron microparticles that are amine-terminated for attaching proteins and ligands. 1 ml packaged in a 2 ml sealed serum bottle (~8.4 billion particles). Particles are packaged in an aqueous suspension at 25 mg Fe/ml. REF: *J Lab Clin Med* 1987;**110**:164-171	
CL-01Q02-B-50	Micro***TRACK***™ **Rhodamine B**	$ 300.00
	1 µm (± 0.5 µm) silane-coated, biodegradable iron microparticles labeled with rhodamine B. 1 ml packaged in a 2 ml sealed serum bottle (~8.4 billion particles). Particles are packaged in an aqueous suspension at 25 mg Fe/ml.	
	Non-Biodegradable	
CL-01Q02-L	Micro***TRACK***™	$ 100.00
	1 µm (± 0.5 µm) polystyrene, non-biodegradable iron microspheres. 1 ml packaged in a 2 ml sealed serum bottle, containing approximately 8.4 billion microspheres. Particles are packaged in an aqueous suspension at 5 mg Fe/ml.	
CL-01Q02-L-50	Micro***TRACK***™ **Rhodamine B**	$ 300.00
	1 µm (± 0.5 µm) polystyrene, non-biodegradable iron microspheres labeled with rhodamine B. 1 ml packaged in a 2 ml sealed serum bottle (~8.4 billion microspheres). Particles are packaged in an aqueous suspension at 5 mg Fe/ml.	

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There has been increasing interest in modeling injection materials in *in vivo* systems using MRI technology. For example, one could model the fate of implanted cells, using a 15 µm labeled microsphere or visualize an embolic region using a labeled 100 µm microsphere. Therefore, BioPAL has developed a product-line specific for these applications. Upon request, BioPAL can provide different sized microspheres labeled with iron.

NOT FOR HUMAN USE.

Iron-Labeled Microspheres

Catalog Number		
C-15Q10	Ferro***TRACK***™ 15 µm in diameter, iron-labeled microspheres and packaged in a 10 ml sealed serum bottle, containing approximately 25 million microspheres. 25 mg Fe/ml. Applications: Vascular imaging, Injection and injection-site visualization.	$ 400.00
C-100Q10	Ferro***TRACK***™ 100 µm in diameter, iron-labeled microspheres and packaged in a 10 ml sealed serum bottle, containing approximately 84,000 microspheres. 25 mg Fe/ml. Applications: Embolism studies and visualization.	$ 400.00

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Molday LION™ **Rhodamine B** is an ultrasmall mixed ferrite iron oxide-based superparamagnetic contrast reagent having a colloidal size of 35 nm. The core crystal is europium-doped magnetite surrounded by a cross-linked dextran to which a fluorescent dye, rhodamine B, is attached through a C6 amino group. This agent can be visualized by MRI and fluorescence, and can be quantified by neutron activation *via* BioPAL's short enhanced assay service. For neutron activation applications, please discuss your protocol with BioPAL in advance of purchase. For MRI, this agent is classified as a darkening agent acting through the T2 relaxation process. For fluorescence, the rhodamine B label excitation wavelength is 555 nm and the emission is at 565-620nm.

In addition to rhodamine B, alternative fluorescent dyes can be conjugated to CL-50KQ02-6A and we are pleased to discuss alternative conjugation procedures.

NOT FOR HUMAN USE.

Fluorescent Magnetite MRI Contrast Agent

Catalog Number		
CL-50KQ02-6A	Molday LION .....$	450.00
	2.0 ml of a 35 nm mixed ferrite iron oxide contrast agent containing europium having a positive surface packaged in a 2 ml sealed serum bottle. 1 mg Fe/ml. Applications: MRI, EM, Fluorescent detection, Neutron activation, Magnetic cell-sorting.	
CL-50KQ02-6A-50	Molday LION **Rhodamine B** .....$	450.00
	1.0 ml of a 35 nm rhodamine B mixed ferrite iron oxide contrast agent packaged in a 2 ml sealed serum bottle. 1 mg Fe/ml. Applications: MRI, EM, Fluorescent detection, Neutron activation, Magnetic cell-sorting. **REF:** *Bioconjugate Chemistry* 2007:18;1763-1771.	

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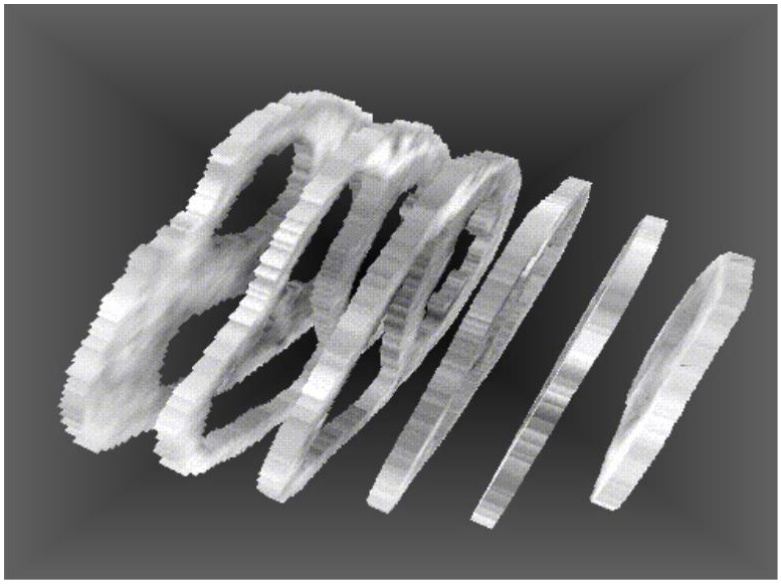
Magnetic resonance imaging (MRI) is an imaging technique used primarily in medical research to produce high quality images of *in vivo* systems. To track materials within *in vivo* systems, compounds-of-interest are tagged with materials that possess magnetic properties. These materials, as well as MRI contrast agents, generally fall into two classes. The first is soluble gadolinium compounds that act through the T1 relaxation process and are brightening agents. The second is particulate iron oxides that act through the T2 relaxation process and are darkening agents. Each type of contrast agent has its benefits.



BioPAL provides the research community with a comprehensive MRI product-line. This product-line includes standard MRI contrast agents, such as Gd-DTPA and Gd-DOTA, sold under our brand name ***Ga***do-DTPA™ and ***Ga***do-DOTA™, respectively. In addition, to aid researchers BioPAL offers immunoassay kits (ELISA) to measure both of these compounds in collected biological fluids.

Gadolinium-DTPA

Gadolinium-DTPA and gadolinium-DOTA are a brightening agent acting through the T1 relaxation process. BioPAL's ***Ga***do-DTPA is bottled at a concentration of 469 mg/ml and ***Ga***do-DOTA is bottled at a concentration of 279 mg/ml. NOT FOR HUMAN USE.

Catalog Number		
MR-00P10	***Ga***do-DTPA 10.0 ml sealed serum bottle of gadolinium-DTPA at a concentration of 469 mg/ml. Applications: Perfusion.	$ 50.00
MR-00P11	***Ga***do-DOTA 1.0 ml sealed serum bottle of gadolinium-DOTA at a concentration of 279 mg/ml. Applications: Perfusion.	$ 250.00

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BioPAL provides the research community with a comprehensive MRI product-line. BioPAL has applied its unique isotopic labeling technology to generate novel MRI reagents for specific applications. For example BioPAL offers gadolinium-labeled albumin and cholic acid. These products can be used for a wide range of applications.

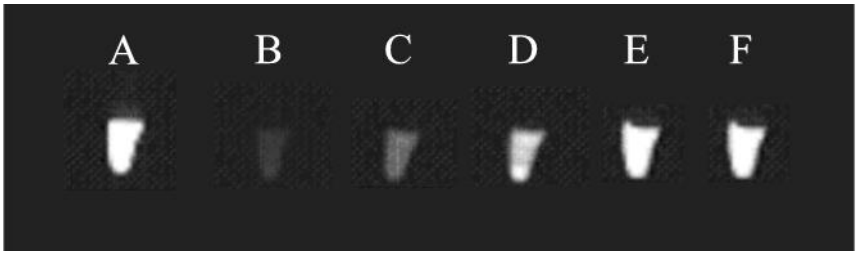

Figure: Using Spin Echo (SE) sequence with TR/TE = 100/14, images of gadolinium labeled solutions in microtubes were obtained. The average signal intensity within a region-of-interest (ROI) is listed below. The background intensity measured 0.7 ± 0.5.

Gadolinium-Labeled Albumin

Gadolinium-labeled albumin is a brightening agent acting through the T1 relaxation process. BioPAL's ***Ga***lbumin is gadolinium-labeled bovine albumin bottled at a concentration of 25 mg/ml. There are approximately 10 to 15 gadolinium atoms per albumin unit. NOT FOR HUMAN USE.

Catalog Number		
P-00P01	***Ga***lbumin™	$ 135.00
	Gadolinium-labeled albumin. 1.0 ml at a concentration of 25 mg/ml, packaged in a 2 ml sealed serum bottle. Applications: Vascular imaging, Injection and injection-site visualization.	
P-00P01-100	Concentrated ***Ga***lbumin™	$ 600.00
	Gadolinium-labeled albumin. 1.0 ml at a concentration of 100 mg/ml, packaged in a 2 ml sealed serum bottle. Applications: Vascular imaging, Injection and injection-site visualization.	
P-00PK01	Trackable ***Ga***lbumin™	$ 150.00
	Gadolinium-labeled albumin laced with europium to permit tracking by NA, see Neutron Activation Section. 1.0 ml at a concentration of 25 mg/ml, packaged in a 2 ml sealed serum bottle. Applications: Vascular imaging, Injection and injection-site visualization.	
P-00PZ01	Glowing ***Ga***lbumin™ - Fluorescein	$ 175.00
	Gadolinium-labeled albumin co-labeled with FITC for fluorescent imaging. 1.0 ml at a concentration of 25 mg/ml, packaged in a 2 ml sealed serum bottle. Applications: Vascular imaging, Injection and injection-site visualization.	
P-00PY01	Glowing ***Ga***lbumin™ - Rhodamine B	$ 175.00
	Gadolinium-labeled albumin co-labeled with rhodamine B for fluorescent imaging. 1.0 ml at a concentration of 25 mg/ml, packaged in a 2 ml sealed serum bottle. Applications: Vascular imaging, Injection and injection-site visualization.	

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BioPAL provides the research community with a comprehensive MRI product-line. **Gd**-IgG™ is a gadolinium-labeled IgG bottled at a concentration of 25 mg/ml. There are approximately 10 to 15 gadolinium atoms per IgG unit and the molecular weight of the product is approximately 160 kDa. This reagent is engineered to be used as a MRI contrast reagent and is classified as a brightening agent acting through the T1 relaxation process.

NOT FOR HUMAN USE.

Gadolinium-Labeled IgG

Catalog Number		
P-00P02	**Gd**-IgG™	$ 150.00

Gadolinium-labeled IgG. 1.0 ml at a concentration of 25 mg/ml, packaged in a 2 ml sealed serum bottle.
Applications: MRI, Vascular imaging, Injection and injection-site visualization

Gado-Inulin™ is a gadolinium-labeled inulin bottled at a concentration of 25 mg/ml. There are approximately 10 to 15 gadolinium atoms per inulin unit and the molecular weight of the product is approximately 160 kDa. BioPAL uses USP Grade inulin, which its availability was in part supported by the NIH-SBIR Program (DK088349). Inulin is classically recognized as the gold standard renal probe for the measurement of glomerular filtration rate (GFR). This reagent is engineered to be used as a MRI contrast reagent that can be used in nephrology research and is classified as a brightening agent acting through the T1 relaxation process.

NOT FOR HUMAN USE.

Gadolinium-Labeled IgG

Catalog Number		
P-00P03	**Gado**-Inulin™	$ 175.00

Gadolinium-labeled Inulin. 1.0 ml at a concentration of 25 mg/ml, packaged in a 2 ml sealed serum bottle.
Applications: MRI, Renal imaging, Injection and injection-site visualization

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Gadoluminate™ is the first commercially available ultra-small gadolinium oxide colloid for use in a wide range of MRI and MRA applications. This product is a 30 nm gadolinium colloid (CL-20P02-2). As shown in the figure below, this reagent provides a strong T1 signal that is comparable to the same molar concentration as Gd-DTPA. However, due to its colloidal size and neutral charge, this reagent is retained in the vascular space. The measured blood half-life ($t_{1/2}$) of ***Gado***luminate in a swine model is approximately 12.5 hours, as compared to ~11.9 minutes in mouse model.

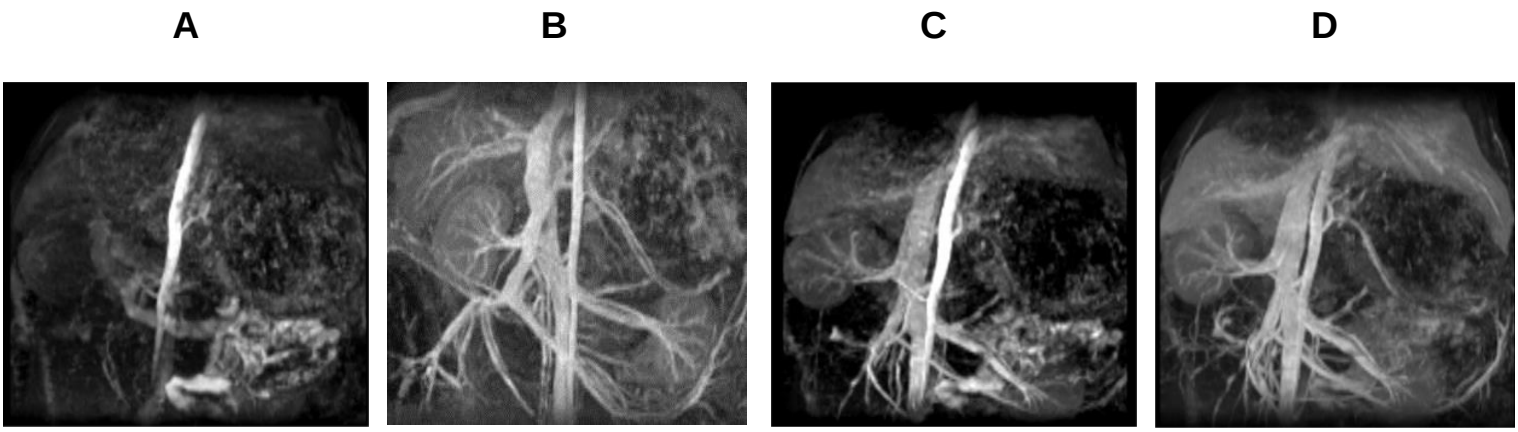

Figure 1: MIP reconstructed 3D images depicting pre and post administration of ***Gado***luminate: **A** pre-contrast image, **B** 0.10 mmol Gd/kg, **C** 0.04 mmol Gd/kg, **D** 0.01 mmol Gd/kg. MRA images were acquired on a 3 T clinical scanner (Tio, Siemens) using a 7-inch volume coil and a 3D gradient echo (FLASH) sequence. Axial images were acquired to cover the abdominal region including liver and kidneys with acquisition parameters TR/TE = 19/4.9, FOV 180x124x128, matrix 128x176x256, effective slice thickness 1 mm, receiver bandwidth 120 Hzs/pixel, flip angle 30º.

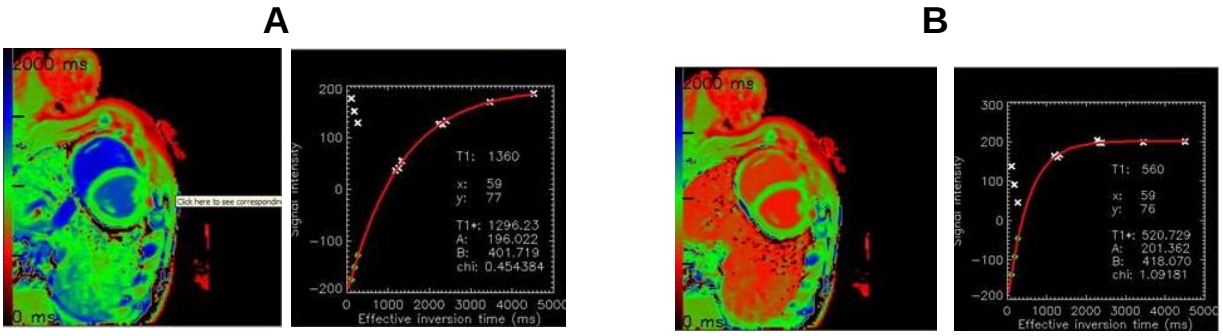

Figure 2: The change in T1 signal in blood following a 0.01 mmol Gd/kg dose of ***Gado***luminate in a swine model. **A** is pre-dose and **B** is post dose administration. A Modified Look-Locked Inversion Recovery sequence with 11 different inversion times was performed. The signal intensity was measured in blood.

Ultra-Small Gadolinium Oxide Colloidal MRI Reagent

Catalog Number

CL-20P02-2 ***Gado***luminate™ .....$ 450.00

2.0 ml of 30 nm gadolinium colloid (10 mg Gd/ml) packaged in a 2 ml sealed serum bottle.
Neutral charge. Assay Method: MRI, MRA and EM.

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GADOPOLYLYSINE™ is a gadolinium-labeled polylysine. This reagent is engineered to be used as a MRI contrast reagent and is classified as a brightening agent acting through the T1 relaxation process. GADOPOLYLYSINE is designed for diffusion studies, for labeling cells, and to allow efficient labeling with ligands, peptides, proteins, and nucleic acid (RNAi, DNA, etc.), wherein a T1 weighted MRI contrast agent is desired. Other applications for these MRI contrast agents include use in drug delivery and use as a duel purpose colloid that combines drug delivery with imaging applications.

NOT FOR HUMAN USE.

Gadolinium-Labeled Polylysine

Catalog Number		
P-01P01-01	GADOPOLYLYSINE (10 kDa)	$ 175.00
	1.0 ml of gadolinium-labeled 10 kDa polylysine packaged in a 2 ml sealed serum bottle. 10 mg polylysine per ml. Applications: MRI and EM.	
P-01P01-02	GADOPOLYLYSINE (22 kDa)	$ 175.00
	1.0 ml of gadolinium-labeled 22 kDa polylysine packaged in a 2 ml sealed serum bottle. 10 mg polylysine per ml. Applications: MRI and EM.	
P-01P01-05	GADOPOLYLYSINE (50 kDa)	$ 175.00
	1.0 ml of gadolinium-labeled 50 kDa polylysine packaged in a 2 ml sealed serum bottle. 10 mg polylysine per ml. Applications: MRI and EM.	
P-01P01-11	GADOPOLYLYSINE (110 kDa)	$ 175.00
	1.0 ml of gadolinium-labeled 110 kDa polylysine packaged in a 2 ml sealed serum bottle. 10 mg polylysine per ml. Applications: MRI and EM.	
P-01P01-22	GADOPOLYLYSINE (225 kDa)	$ 175.00
	1.0 ml of gadolinium-labeled 225 kDa polylysine packaged in a 2 ml sealed serum bottle. 10 mg polylysine per ml. Applications: MRI and EM.	

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GADODextran™ is a gadolinium-labeled dextran. This reagent is engineered to be used as a MRI contrast reagent and is classified as a brightening agent acting through the T1 relaxation process. Similar to GADOPOLYLYSINE™, GADODextran is designed for diffusion studies, for labeling cells, and to allow efficient labeling with ligands, peptides, proteins, and nucleic acid (RNAi, DNA, etc.), wherein a T1 weighted MRI contrast agent is desired. Other applications for these MRI contrast agents include use in drug delivery and use as a duel purpose colloid that combines drug delivery with imaging applications.

NOT FOR HUMAN USE.

Gadolinium-Labeled Dextran

Catalog Number		
P-02P01-01	GADODextran (10 kDa)	$ 175.00
	1.0 ml of gadolinium-labeled 10 kDa dextran packaged in a 2 ml sealed serum bottle. 10 mg dextran per ml. Applications: MRI.	
P-02P01-04	GADODextran (40 kDa)	$ 175.00
	1.0 ml of gadolinium-labeled 40 kDa dextran packaged in a 2 ml sealed serum bottle. 10 mg dextran per ml. Applications: MRI.	
P-02P01-07	GADODextran (70 kDa)	$ 175.00
	1.0 ml of gadolinium-labeled 70 kDa dextran packaged in a 2 ml sealed serum bottle. 10 mg dextran per ml. Applications: MRI.	

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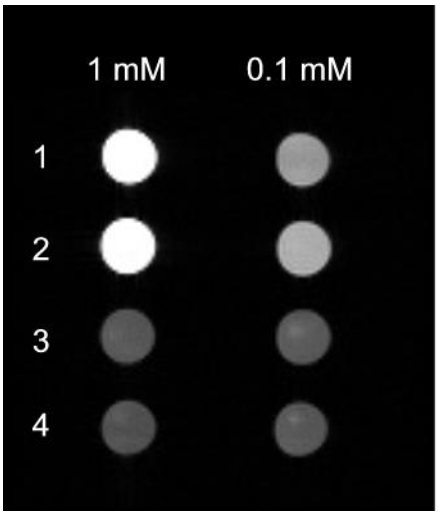
BioPAL has developed Gado *CELL***Track**™ to aid researchers locate, track, and quantify implanted cells in *in vivo* systems using MRI technology. This product is a 50 nm gadolinium colloid (CL-50P02-6) that is negatively charged. As shown in the figure below, this reagent provides a strong T1 signal that is comparable to the same molar concentration as Gd-DTPA. Like all our colloidal markers, these reagents can also be measured by electron microscopy (EM).

BioPAL's ***IVST*** reagents, which contain both gadolinium for MRI imaging, as well as additional isotopes for quantification *via* neutron activation can be found in the Neutron Activation section of our catalog and web site.



	1 mM	0.1 mM
	Normalized Intensity	
1	1.00	0.46
2	0.96	0.52
3	0.27	0.29
4	0.24	0.26

Figure: T1 weighted image from a series of compounds having the same molar concentration are shown on the left and normalized intensity values are tabulated on the right. Row 1 is Gd-DTPA, Row 2 is colloidal gadolinium, Row 3 is colloidal europium having the same size and matrix as colloidal gadolinium, Row 4 is PBS.

Colloidal Gadolinium Cell-Labeling Reagent

Catalog Number

CL-50P02-6 — Gado *CELL***Track**™ (-) .....$ 450.00
2.0 ml of 50 nm gadolinium colloid (10 mg Gd/ml) packaged in a 2 ml sealed serum bottle.
Negative charge. Assay Method: MRI and EM

CL-00-01 — Poly-L-Lysine .....$ 60.00
1.0 ml poly-l-lysine (10 mg/ml) packaged in a 2 ml sealed serum bottle.
Applications: The procedure for labeling Poly-L-Lysine onto CL-50P02-6 would be comparable to the procedure described for Molday ION (-) [Cat #: CL-30Q02-6] and may require an initial range finding study for optimal labeling for each cell type.
PDF download on BioPAL's web site – **Application Note #1**.

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BioPAL offers Evans Blue-DTPA-Gadolinium a novel functionalized MRI contrast agent that recognizes lesions in the vascular endothelium. Conventional MRI agents image the overall vasculature. However, these agents cannot directly detect and image endothelial lesions. Evans Blue-DTPA-Gadolinium is comprised of a detection unit (Evans-Blue dye) linked to an imaging unit (Gadolinium-DTPA). The dye component selectively adsorbs to a vascular endothelium-denuded region, and with the imaging component marks the site. Experimental work with this agent has been performed *in vivo* in apolipoprotein-E-deficient (ApoE-/-) mice of varying ages. In the mice experiments, MRI signal enhancement is seen only in the inner surface of the aorta wall, which means that the contrast agent does not permeate the tissue; this is important for MR imaging of blood vessels since rapid excretion is preferable. Signal intensity at the injured vascular site is 1.74 times as high as that of the normal site 10 minutes after injection; after 30 minutes the signal weakened and at 120 minutes there was no observed difference in signal intensity, indicating rapid excretion from the body. When administered intravenously, our agent effectively detected atherosclerotic plaques in the aorta, areas indicative of endothelial dysfunction. Interestingly, the signal intensity increased with age, consistent with the notion of age-related atherosclerosis. This agent is selective and specific for detecting vascular lesions and may be used to follow progression and regression of atherosclerosis and also perhaps aid in the management of cardiovascular diseases.

Evans Blue-DTPA-Gadolinium

Evans Blue-DTPA-Gadolinium is a brightening agent acting through the T1 relaxation process. This product is gadolinium-labeled Evans Blue dye bottled at a concentration of 10 mg. NOT FOR HUMAN USE.

Catalog Number		
GD-00P01	Evans Blue-DTPA-Gadolinium Gadolinium-labeled Evens Blue dye. 10 mg packaged as a dry powder in a 2 ml sealed serum bottle. Applications: Vascular imaging, Endothelium lesion recognition.	$ 400.00
GD-01P05	Buffered Saline Solution Buffered saline solution used to reconstitute Evans Blue-DTPA-Gadolinium. 5 ml in a 10 ml sealed serum bottle.	$ 50.00

Advantages:

- It is a targeted contrast agent that enhances the capability and specificity of MRI.
- The imaging agent does not permeate the tissue and is rapidly excreted out of the body within 120 min.
- It may aid in early intervention for both primary and secondary treatment of cardiovascular diseases.

Publications

Yasuda, S., Ikuta, K., et al. In vivo Magnetic Resonance Imaging of Atherosclerotic Lesions with a Newly Developed Evans Blue-DTPA-Gadolinium Contrast Medium in Apolipoprotein-E-Deficient Mice **[J Vasc Res (2008) 45, 123-128]**

Intellectual Property

JP 4569875, US 7,368,099

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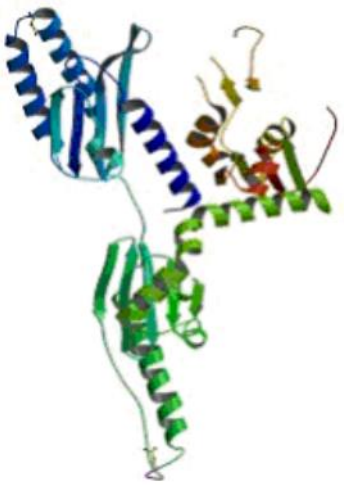
BioPAL's gadolinium protein labeling kit contents are specifically designed to support our FIT-MITT ELISA system. The labeling kit contains the bifunctional chelate (either DOTA or DTPA), gadolinium salt, required buffers, and instructions. The kit is designed to label up to 10 mg of protein. If planning to use your labeled compound for MRI experiments, the sensitivity of MRI detection is a function of many factors, including labeling efficiency and sample composition. Therefore, each researcher will need to validate MRI detection for their unique application. BioPAL also offers a custom protein labeling service. Customers should contact BioPAL if interested in custom labeling services.

The kits are nonradioactive.

*PRO*Track – Gadolinium Protein Labeling Kits

Catalog Number		
PL-00P01	*PRO*Track Gadolinium (DOTA) The kit contains the bifunctional chelate (DOTA), gadolinium salt, required buffers, and instructions. The kit is designed to label 1 to 10 mg of protein.	$ 600.00
PL-00P02	*PRO*Track Gadolinium (DTPA) The kit contains the bifunctional chelate (DTPA), gadolinium salt, required buffers, and instructions. The kit is designed to label 1 to 10 mg of protein.	$ 600.00
PL-00P03	*PRO*Track Gadolinium (DOTA) Second generation kit designed to minimize potential precipitation during chelation. The kit contains the bifunctional chelate, gadolinium salt, required buffers, and instructions. The kit is designed to label 1 to 10 mg of protein.	$ 675.00



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FIT-MITT kits provide a superior analytical method to measure Gd-DTPA labeled compounds. BioPAL's FIT-MITT test relies on immunoassay as its analytical segment. Depending on the protocol chosen, the kit can support up to 42 unknown samples performed in duplicate. The kit does not contain the gadolinium-DTPA labeling kit. The labeling kit is sold separately. Reminder: Researchers MUST develop a standard curve using their gadolinium-labeled compound.

FOR RESEARCH USE ONLY.
NOT FOR USE IN DIAGNOSTIC PROCEDURES.

Patents Pending.

Gd-DTPA FIT-MITT – Kit

Catalog Number		
FIT-0115	FIT-MITT Kit (Gd-DTPA) The kit contains Gd-DTPA concentrate, rabbit Gd-DTPA antiserum, HRP-Gd-DTPA conjugate, HRP substrate and stop reagents, a goat anti-rabbit IgG coated 96 well plate, a plate sealer, FIT-MITT Gd-DTPA kit manual and documentation.	$ 600.00

Gd-DTPA FIT-MITT – Kit Components

FIT-0101	Rabbit Anti-Gadolinium-DTPA 6.0 ml packaged in an 8 ml polyethylene screw-cap bottle.	$ 250.00
FIT-0102	HRP-Gadolinium-DTPA 6.0 ml packaged in an 8 ml polyethylene screw-cap bottle.	$ 250.00
FIT-0103	Gadolinium-DTPA Concentrate 125.0 µl at a concentration 0f 1 mg/ml packaged in a 0.6 ml microtube.	$ 50.00
FIT-0104	Gd-DTPA Controls (High and Low) Each control contains 1.0 ml packaged in a 2 ml screw-cap vial.	$ 50.00

FIT-MITT – General Kit Components

FIT-0001	Standard and Sample Diluent 100.0 ml packaged in a 125 ml polyethylene screw-cap bottle.	$ 25.00
FIT-0002	HRP Substrate Reagent 12.0 ml packaged in a 15 ml polyethylene screw-cap bottle.	$ 35.00
FIT-0003	HRP Stop Reagent 12.0 ml packaged in a 15 ml polyethylene screw-cap bottle.	$ 25.00
FIT-0004	Plate Sealer Pack of 5.	$ 20.00
FIT-0005	Wash Buffer Concentrate 100.0 ml packaged in a 125 ml polyethylene screw-cap bottle.	$ 30.00
FIT-0006	Goat Anti-Rabbit IgG Coated 96 Well Plate One plate.	$ 200.00
FIT-0009	Long-Term Storage Diluent 100.0 ml packaged in a 125 ml polyethylene screw-cap bottle. *FOR FREEZING SAMPLES* **NOTE: Gd-DTPA-labeled compounds can be unstable when frozen.**	$ 35.00

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FIT-MITT kits provide a superior analytical method to measure Gd-DOTA labeled compounds. BioPAL's FIT-MITT test relies on immunoassay as its analytical segment. Depending on the protocol chosen, the kit can support up to 42 unknown samples performed in duplicate. The kit does not contain the gadolinium-DOTA labeling kit. The labeling kit is sold separately. Reminder: Researchers MUST develop a standard curve using their gadolinium-labeled compound.

FOR RESEARCH USE ONLY.
NOT FOR USE IN DIAGNOSTIC PROCEDURES.

Patents Pending.

Gd-DOTA FIT-MITT – Kit

Catalog Number		
FIT-0215	FIT-MITT Kit (Gd-DOTA) The kit contains Gd-DOTA concentrate, rabbit Gd-DOTA antiserum, HRP-Gd-DOTA conjugate, HRP substrate and stop reagents, a goat anti-rabbit IgG coated 96 well plate, a plate sealer, FIT-MITT Gd-DOTA kit manual and documentation.	$ 600.00

Gd-DOTA FIT-MITT – Kit Components

FIT-0201	Rabbit Anti-Gadolinium-DOTA 6.0 ml packaged in an 8 ml polyethylene screw-cap bottle.	$ 250.00
FIT-0202	HRP-Gadolinium-DOTA 6.0 ml packaged in an 8 ml polyethylene screw-cap bottle.	$ 250.00
FIT-0203	Gadolinium-DOTA Concentrate 125.0 µl packaged in a 0.6 ml microtube.	$ 60.00
FIT-0204	Gd-DOTA Controls (High and Low) Each control contains 1.0 ml packaged in a 2 ml screw-cap vial.	$ 60.00

FIT-MITT – General Kit Components

FIT-0001	Standard and Sample Diluent 100.0 ml packaged in an 125 ml polyethylene screw-cap bottle.	$ 25.00
FIT-0002	HRP Substrate Reagent 12.0 ml packaged in an 15 ml polyethylene screw-cap bottle.	$ 35.00
FIT-0003	HRP Stop Reagent 12.0 ml packaged in an 15 ml polyethylene screw-cap bottle.	$ 25.00
FIT-0004	Plate Sealer Pack of 5.	$ 20.00
FIT-0005	Wash Buffer Concentrate 100.0 ml packaged in a 125 ml polyethylene screw-cap bottle.	$ 30.00
FIT-0006	Goat Anti-Rabbit IgG coated 96 Well Plate One plate.	$ 200.00

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