Cell labeling
Cell tracking
with iron oxide, SPIO, USPIO
MRI
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Superparamagnetic Iron Oxide Nanoparticles Function as a Long-Term, Multi-Modal Imaging Label for Non-Invasive Tracking of Implanted Progenitor Cells
Christina A. Pacak1,2*, Peter E. Hammer3, Allison A. MacKay1, Rory P. Dowd1, Kai-Roy Wang1, Akihiro Masuzawa4, Bjoern Sill1, James D. McCully4, Douglas B. Cowan1
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September 24, 2014
PLoS ONE 9(9): e108695. doi:10.1371/journal.pone.0108695
http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0108695

Stem cell tracking using iron oxide nanoparticles
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International Journal of Nanomedicine 2014:9 1641–1653
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Viability, Differentiation Capacity, and Detectability of Super-Paramagnetic Iron Oxide-Labeled Muscle Precursor Cells for Magnetic-Resonance Imaging
Fahd Azzabi, PhD,1 Markus Rottmar, PhD,1,2 Virginija Jovaisaite, MSc,1 Markus Rudin, PhD,3 Tullio Sulser, MD,1 Andreas Boss, MD, PhD,2 and Daniel Eberli, MD, PhD1
TISSUE ENGINEERING: Part C Volume 00, Number 00, 2014
DOI: 10.1089/ten.tec.2014.0110

Magnetic resonance monitoring of superparamagnetic iron oxide (SPIO)-labeled stem cells transplanted into the inner ear
Yukiko Watada[a], Daisuke Yamashita[a, b], Masashi Toyoda[c, d], Kohei Tsuchiya[c], Naoko Hida[c, d], Akihiro Tanimoto[e], Kaoru Ogawa[a], Sho Kanzaki[a, ,], Akihiro Umezawa[c]
doi:10.1016/j.neures.2015.01.010

Ultrastructural characterization of mesenchymal stromal cells labeled with ultrasmall superparamagnetic iron-oxide nanoparticles for clinical tracking studies

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Scandinavian Journal of Clinical & Laboratory Investigation, August 2014, Vol. 74, No. 5 : Pages 437-446 Read More:
http://informahealthcare.com/doi/pdf/10.3109/00365513.2014.900698

Magnetic resonance imaging tracking of ultra small superparamagnetic iron oxide labeled rabbit dendritic cells

Zhou J[1], Yang F, Zhou Q, Yang K, Chen W.
Exp Biol Med (Maywood). 2014 Jan;239(1):13-23. doi: 10.1177/1535370213508712

Functional investigations on embryonic stem cells labeled with clinically translatable iron oxide nanoparticles

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Nanoscale, 2014,6, 9025-9033
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Combining perfluorocarbon and superparamagnetic iron-oxide cell labeling for improved and expanded applications of cellular MRI.

Hitchens TK[1], Liu L, Foley LM, Simplaceanu V, Ahrens ET, Ho C.
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Magn Reson Med. 2014 Jan 29. doi: 10.1002/mrm.25120
http://onlinelibrary.wiley.com/doi/10.1002/mrm.25120/full

Optimal Labeling Dose, Labeling Time, and Magnetic Resonance Imaging Detection Limits of Ultrasmall Superparamagnetic Iron-Oxide Nanoparticle Labeled Mesenchymal Stromal Cells

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Stem Cells International
Volume 2013 (2013), Article ID 353105, 10 pages
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Flow-Mediated Stem Cell Labeling with Superparamagnetic Iron Oxide Nanoparticle Clusters

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ACS Appl. Mater. Interfaces, 2013, 5 (20), pp 10266–10273
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In vivo MRI tracking of iron oxide nanoparticle-labeled human mesenchymal stem cells in limb ischemia

Li XX, Li KA, Qin JB, Ye KC, Yang XR, Li WM, Xie QS, Jiang ME, Zhang GX, Lu XW
March 2013, International Journal of Nanomedicine, Volume 2013:8(1) Pages 1063—1073
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Effect of Labeling with Iron Oxide Particles or Nanodiamonds on the Functionality of Adipose-Derived Mesenchymal Stem Cells

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Citation: Blaber SP, Hill CJ, Webster RA, Say JM, Brown LJ, et al. (2013) Effect of Labeling with Iron Oxide Particles or Nanodiamonds on the Functionality of Adipose-Derived Mesenchymal Stem Cells. PLoS ONE 8(1): e52997. doi:10.1371/journal.pone.0052997

Labeling Stem Cells with Superparamagnetic Iron Oxide Nanoparticles: Analysis of the Labeling Efficacy by Microscopy and Magnetic Resonance Imaging

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Book Title: Nanoparticles in Biology and Medicine : Methods and Protocols
Series: Methods in Molecular Biology | **Volume:** 906 | **Pub. Date:** Sep-12-2012 | **Page Range:** 239-252 | **DOI:** 10.1007/978-1-61779-953-2_18

Self-Assembling Nanocomplexes by combining Ferumoxytol, Heparin And Protamine For Cell Tracking by MRI

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Personalized nanomedicine advancements for stem cell tracking

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Cancer stem cell labeling using poly(L-lysine)-modified iron oxide nanoparticles

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Received 10 January 2012, Accepted 31 January 2012, Available online 18 February 2012
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Essential Elements to Consider for MRI Cell Tracking Studies with Iron Oxide-based Labeling Agents

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Highly efficient magnetic stem cell labeling with citrate-coated superparamagnetic iron oxide nanoparticles for MRI tracking
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Cell labeling with magnetic nanoparticles: Opportunity for magnetic cell imaging and cell manipulation
Jelena Kolosnjaj-Tabi1,2, Claire Wilhelm1*, Olivier Clément2, Florence Gazeau1*
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Long-Term MR Cell Tracking of Neural Stem Cells Grafted in Immunocompetent Versus Immunodeficient Mice Reveals Distinct Differences in Contrast Between Live and Dead Cells
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Labeling stem cells with ferumoxytol, an FDA-approved iron oxide nanoparticle.
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MRI assessment of blood outgrowth endothelial cell homing using cationic magnetoliposomes
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Monitoring of In Vivo Function of Superparamagnetic Iron Oxide Labelled Murine Dendritic Cells during Anti-Tumour Vaccination
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Superparamagnetic Iron Oxide Labeling of Stem Cells for MRI Tracking and Delivery in Cardiovascular Disease
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In Vivo MRI Cell Tracking: Clinical Studies
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Synthetic and biogenic magnetite nanoparticles for tracking of stem cells and dendritic cells
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