

# Using Magnetometry to Monitor Cellular Incorporation and Subsequent Biodegradation of Chemically Synthesized Iron Oxide Nanoparticles

Aurore Van de Walle<sup>1</sup>, Anouchka Plan Sangnier<sup>1,2</sup>, Alexandre Fromain<sup>1</sup>, Claire Wilhelm<sup>1</sup>, Yoann Lalatonne<sup>2,3</sup>

<sup>1</sup>Laboratoire Matière et Systèmes, Complexes MSC, UMR 7057, CNRS & University Paris Diderot <sup>2</sup>Université Sorbonne Paris Nord, Laboratory for Vascular Translational Science, LVTS, INSERM, UMR 1148 <sup>3</sup>Services de Biochimie et Médecine Nucléaire, Hôpital Avicenne Assistance Publique-Hôpitaux de Paris

## Corresponding Authors

**Aurore Van de Walle**      **Claire Wilhelm**      **Yoann Lalatonne**  
 avandewallep7@gmail.com      claire.wilhelm@univ-paris-      yoann.lalatonne@aphp.fr  
    diderot.fr

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## Materials

Name	Company	Catalog Number	Comments
0.05% Trypsin-EDTA (1x)	Life Technologies	25300-054	
Benzyl alcohol for synthesis	Sigma Aldrich	8.22259	
Dexamethasone	Sigma	D4902	Prepare a 1 mM stock solution diluted in Ethanol 100% and store at -20°C
Dichloromethane ≥99% stabilised, GPR RECTAPUR	VWR Chemicals	23367	
DMEM with Glutamax I	Life Technologies	31966-021	No sodium pyruvate, no HEPES
Ethanol absolute	VWR	20821.310	
Fetal Bovine Serum	Life Technologies	10270-106	
Formalin solution 10% neutral buffered	Sigma	HT5012	
Hydrochloric acid, 1.0N Standardized Solution	Alfa Aesar	35640	
Iron(III) acetylacetonate (> 99.9%)	Sigma Aldrich	517003	
ITS Premix Universal Culture Supplement (20x)	Corning	354352	
L-Ascorbic Acid 2-phosphate	Sigma	A8960	Prepare a fresh concentrated solution (25 mM) diluted in distilled water
L-Proline	Sigma	P5607	Prepare a 175 mM stock solution diluted in distilled water and store at 4°C
Mesenchymal Stem Cell (MSC)	Lonza	PT-2501	
Monowave glass vial	Anton Paar	82723_us	
Microwave reactor	Anton Paar	Monowave 300	

MSCGM BulletKit medium	Lonza	PT-3001	For the complete medium, add the provided BulletKit (containing serum, glutamine and antibiotics) to the MSCGM medium
PBS w/o CaCl <sub>2</sub> w/o MgCl <sub>2</sub>	Life Technologies	14190-094	
Penicillin (10.000U/mL)/Streptomycin (10.000µg/mL)	Life Technologies	15140-122	
Poly(acrylic acid, sodium salt)	Sigma Aldrich	416010	MW = 1200 g/mol
RPMI medium 1640, no Glutamine	Life Technologies	31870-025	No sodium pyruvate, no HEPES
Sodium hydroxide, 1.0N Standardized Solution	Alfa Aesar	35629	
Sodium pyruvate solution 100mM	Sigma	S8636	
Sterile conical centrifuge tube	Falcon	352097	15 mL tubes
Trypsin-EDTA (0.05%), phenol red	Thermo Fisher Scientific	25300054	
Tri-sodium citrate	VWR	33615.268	Prepare a 1 M stock solution diluted in distilled water and store at 4°C
Tri-Sodium Citrate Dihydrate, Certified AR for Analysis	Sigma Aldrich	10396430	
Ultra centrifugal filter	Amicon	AC S510024	