



Calibration exercise RADIOMAG

Subject

Determination of the Specific Absorption Rate (SAR) of a ferrofluid

Why

- Different measurement technology and methodological approaches are currently used
- SAR's are often difficult to compare

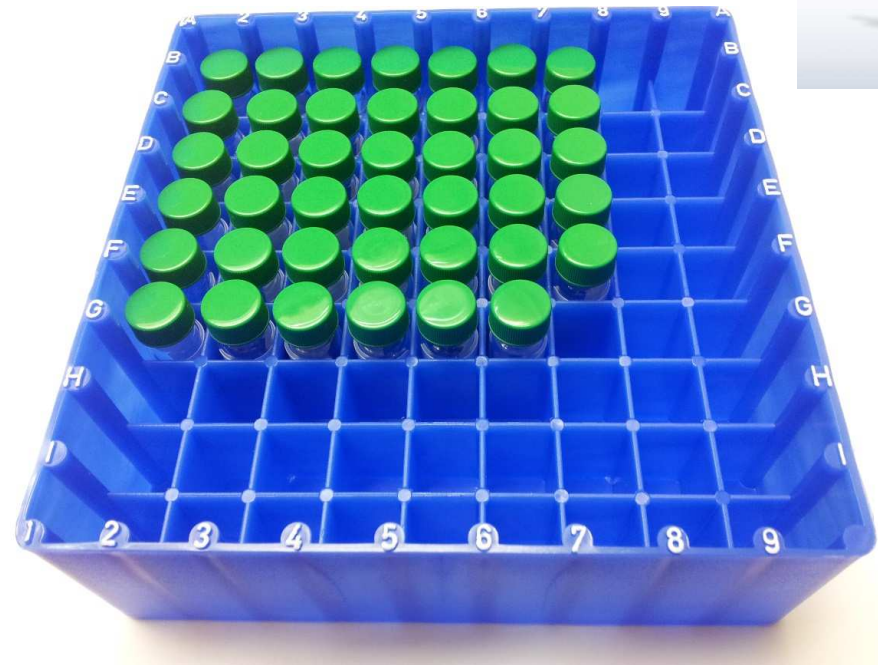
Objective

- Determination of the SAR “bandwidth” using current techniques
- Evaluation of obtained SAR's with respect of the method used
- Set up of standard SAR estimation protocol

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Method

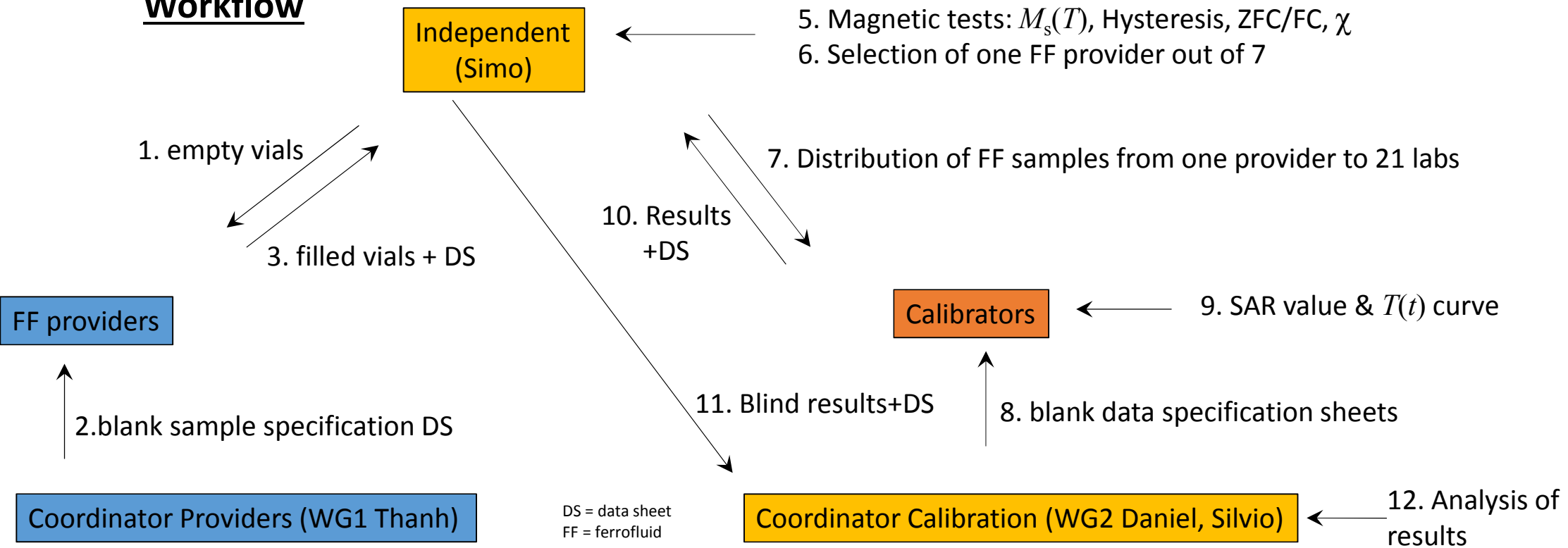
- One ferrofluid measured by different labs
- SAR determinations
in 21 different laboratories
- Double blind determination





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Workflow





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FF providers

- 2 x 2 ml at 3-5 mg nanospheres/mL for 21 laboratories, *i.e.* 84 ml per FF provider (240-400 mg dry)
- Thanh -> Accompanying sample specification sheet
 - instructions for sending, storage
 - quantities to characterise by the providers (saturation magnetisation, hydrodynamic diameters...).

Tasks

Calibrators

- SAR [W/g], $T(t)$ curve, way of calculation
- Daniel/Silvio -> Accompanying result specification sheet
 - measurement conditions (T, H, f, \dots)



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FF providers

1. Daniel Horak
2. Olivier Sandre
3. Sophie Laurent
4. Claudio Sangregorio/Claudia Innocenti
5. Thanh Thi Kim Nguyen
6. Dermot Brougham
7. Ladislau Vekas

Calibrators

- | | |
|----------------------|--------------------------|
| 1. Julian Carrey | 11. Florence Gazeau |
| 2. Luc Dupre | 12. Thanh Thi Kim Nguyen |
| 3. Margarida Cruz | 13. Olivier Sandre |
| 4. Silvio Dutz | 14. Claudio Sangregorio |
| 5. Fernando Plazaola | 15. Dermot Brougham |
| 6. Eleni Eftimiadou | 16. Nico Cassinelli |
| 7. Vlasta Zavisova | 17. Paul Southern |
| 8. Carlton Jones | 18. Marko Boskovic |
| 9. Etelka Tombacz | 19. Teresa Pellegrino |
| 10. Francisco Teran | 20. Francisco Teran |
| | 21. Inês Pinto |

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Timeline

- Send out of vials to Providers
- Sample specification data sheet (Thanh)
- Ferrofluid samples back to Simo
- Send out of samples to Calibrator labs
- Result specification data sheet (Daniel/Silvio)
- Results back to Simo
- Presentation of results

immediately after Limassol
asap after Limassol
1st of December 2015
begin January 2016
begin January 2016
begin February 2016
begin April 2016 (meeting Athens)