

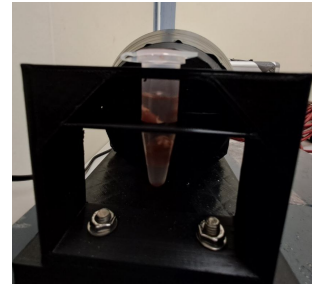
Laboratori Nazionali del Sud – INFN

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In vivo biodistribution of ^{111}Ag Workflow and Imaging evaluations




Experimental setting

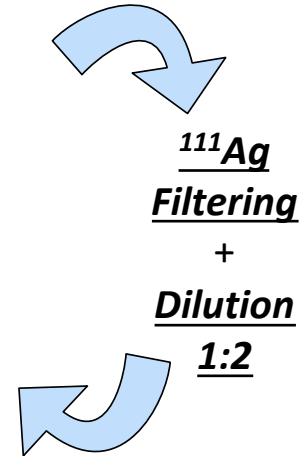
- I.v. administration of $\sim 4\text{MBq}$ of ^{111}Ag using 4 Balb/c nude mice;
- Biodistribution evaluation through Xtreme Bruker – Direct Radioisotopic Imaging analysis at 1h, 3h, 24h, 48h, 72h, 120h, 144h;
- Organs biodistribution through home-made LBC at 144h;



The aim of the study was to assess the *in vivo* biodistribution of ^{111}Ag through Xtreme Bruker and home made LBC

Workflow and limitations

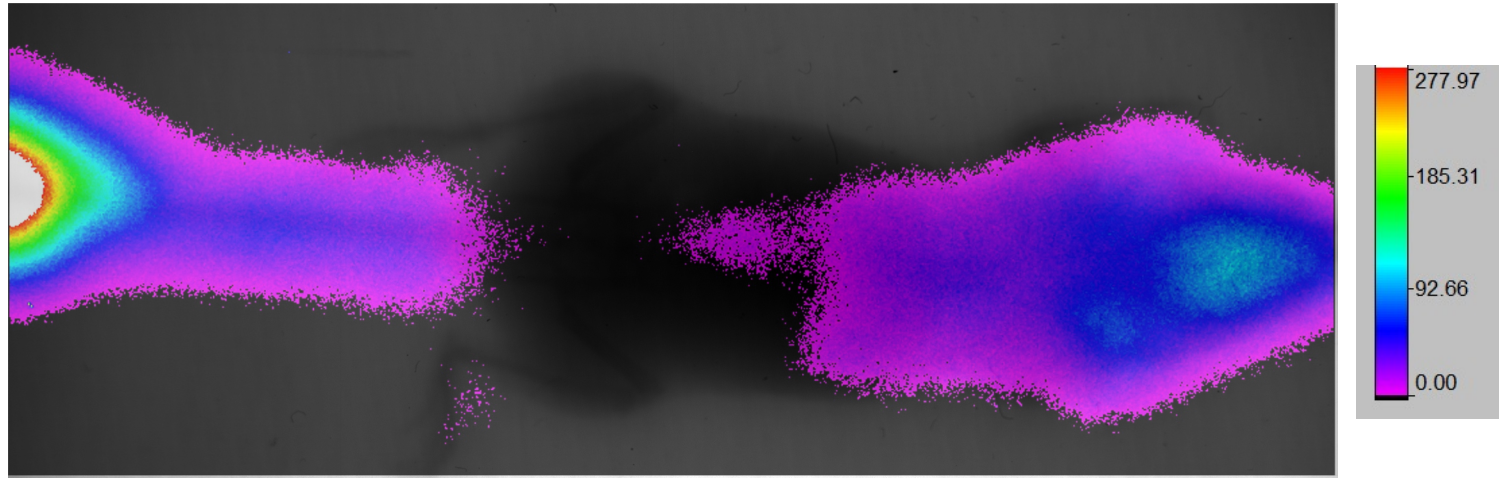
- Previous dilution of ^{111}Ag solution
- i.v. administration of 3.8 MBq of ^{111}Ag of **the first mouse**  Instant death
- i.v. administration of 3.5 MBq of ^{111}Ag on **the second mouse**  Suffering, but survival
- i.v. administration of 1.09 MBq of ^{111}Ag on **the third mouse**  No visible suffering



Biodistribution imaging results

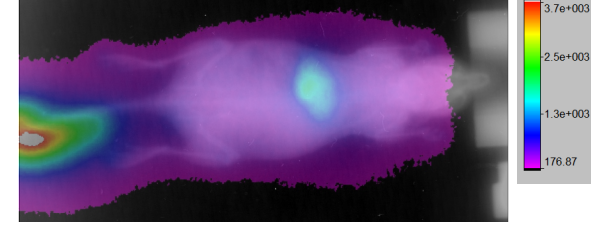
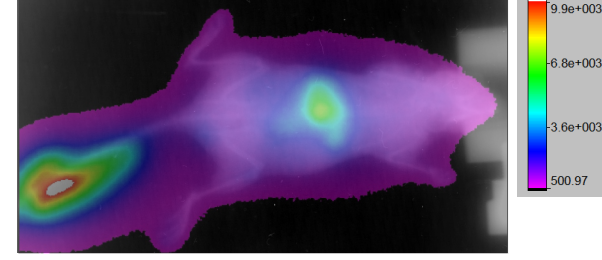
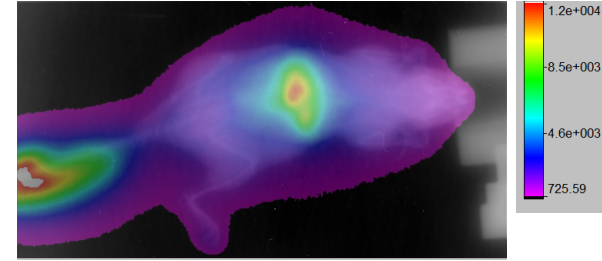
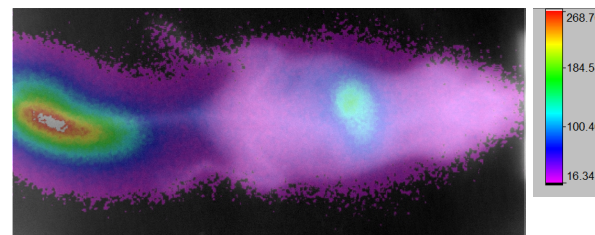
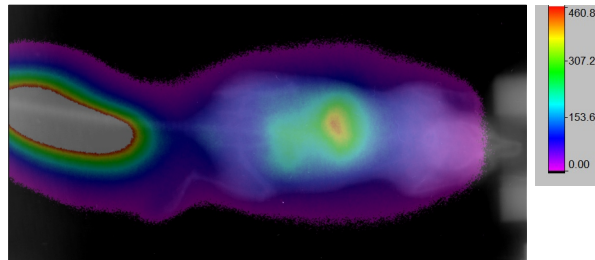
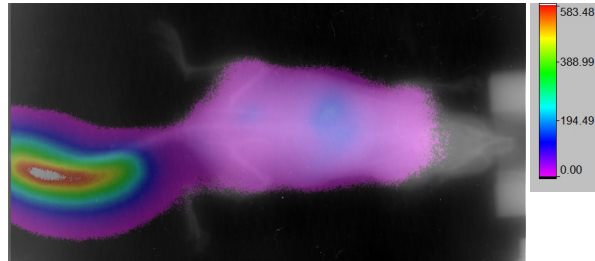
Time point: post mortem

First mouse



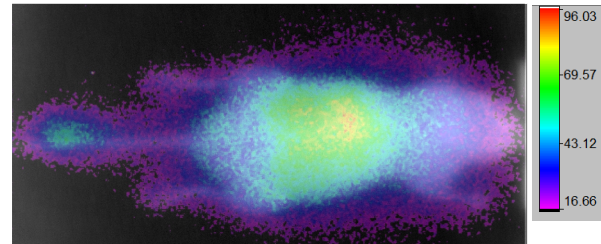
Biodistribution imaging results

Second mouse

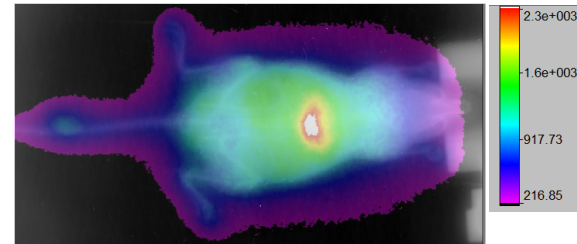


Biodistribution imaging results

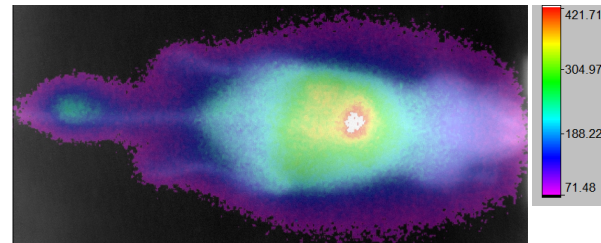
Third mouse



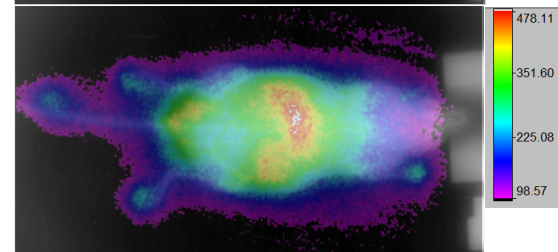
1h



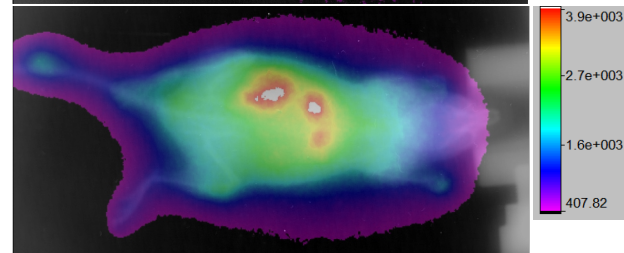
48h



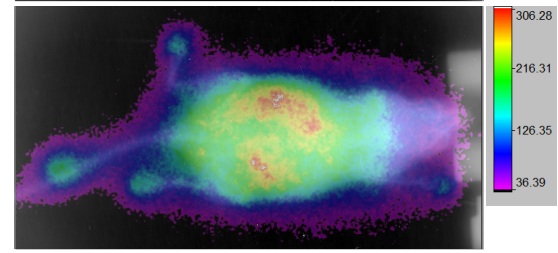
3h



120h



24h



144h

Workflow and limitations

Limitations

Viscosity of the ^{111}Ag solution

Death of the **first mouse** and suffering of the **second mouse**

Adopted Solutions

- ^{111}Ag solution 1:2 dilution with physiological solution;

- Filtering the ^{111}Ag solution;
- Dilution and reduction of the **third mouse** dose

Conclusions and future perspectives

- Clear biodistribution observed at doses of 1.50 MBq and 1.09 MBq;
- Requirement for *in vitro* evaluations ^{111}Ag toxicity;
- Necessity for obtaining a highly pure and no-viscous ^{111}Ag solution

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- Francesco Paolo Cammarata – 0,5
- Giorgio Russo – 0,3
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