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Pretargeting with Lead-203 and Lead-212

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Lead-203 and Lead-212 – The Beauty and the Beast



^{203/212}Pb: Time-dependent Decay

 $t_{1/2} = 51.9 h$ $t_{1/2} = 10.6 h$

Time	²⁰³ Pb in %	²¹² Pb, in %
1h	99	94
5 h	94	72
12 h	85	46
1 d	73	21
2 d	53	4
3 d	38	1
4 d	27	0.2
5 d	20	0.04

Máthé et al. Applied Radiation and Isotopes (2016) 114:1-6

<u>Pretargeting – The Concept</u>



Zeglis et al. Mol Pharm(2015) 12:3575–3587

Meyer et al. Bioconjugate Chem (2016) 27:2791–2807

Tetrazine-Chelator Conjugates



PSC-Bn-NSC provided by Viewpoint Molecular Targeting

<u>Radiolabeling with ²⁰³Pb – Comparing the Chelators</u>





Biodistribution of Tetrazine-Conjugates in Healthy Mice



^{203/212}Pb-Radioimmunotheranostic of Pancreatic Ductal Adenocarcinoma

203PbCl, 24

Dosimetry Calculations for [²¹²Pb]Pb-DO3A-PEG7-Tz

Dosimetry Calculations by Dr. Lukas Carter, MSK

<u>Cherenkov Imaging with ²¹²Pb – 24 h post injection</u>

PET Imaging with [⁶⁴Cu]Cu-Tetrazines – 24 h post injection

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Thank you for your attention!

