



UNIVERSITY
OF VIENNA



MEDICAL UNIVERSITY
OF VIENNA



Ludwig Boltzmann Institute
Applied Diagnostics

Radioactive Metals in Medicine

Prof. Dr. Thomas L. Mindt
University of Vienna 2018

Outline

Radioactive Metals in Medicine

Chapter 1: An Introduction Into Radiopharmaceutical Sciences and Nuclear Medicine

Chapter 2: Registered Metal-Based Radiopharmaceuticals

Chapter 3: Design and Development of Metal-Based Radiopharmaceuticals

Chapter 4: Fundamentals in Radiometal Labelling

Chapter 5: Production of Radionuclides (Focus on Generator Technologies)

Chapter 6: Recent Developments and Future Trends

Chapter 7: Click Chemistry and Bioorthogonal Reactions (in Radiopharmacy/-chemistry)



Objectives

After the lecture you should know...

- ... the principles of nuclear imaging and radioendotherapy
- ... the most common radiometals and their applications in diagnostic and therapeutic nuclear medicine
- ... important features of acyclic and cyclic chelating systems and radiometal complexes thereof (including radiolabeling, stability, reaction conditions etc.)
- ... important conjugation chemistry approaches (including click chemistry) for radiotracer development
- ... different production routes of radionuclides and their advantages/disadvantages
- ... examples of targeted radiopharmaceuticals



Administration

- 6 Double Lectures (some sessions are longer, others shorter...)

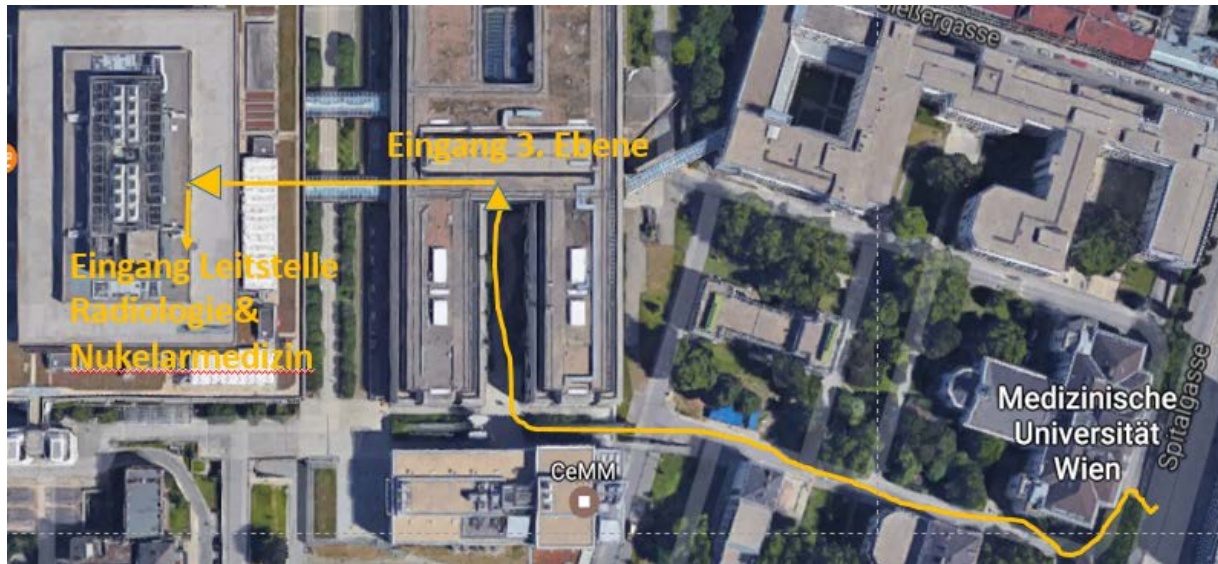
1) Monday, 1.10.18, 4:00-5:30 pm Chapter 1 & 2	4) Friday, 12.10.18, 3:30-5:00 pm Chapter 5
2) Wednesday, 3.10.18, 3:30-5:00 pm Chapter 3	5) Monday, 19.10.18, 3:30-5:00 pm Chapter 6
3) Monday, 8.10.18, 3:30-5:00 pm Chapter 4	6) Tuesday, 22.10.18, 3:30-5:00 pm Chapter 7

- Class size: 5-20 participants
- Language: English
- Course Material (Powerpoint presentation): Download Dropbox (please provide your e-mail address when registering for the class)
- E-Mail Contact: thomas.mindt@lbiad.lbg.ac.at
- Exam: written examination (multiple choice) ca. 30 min; date, time, and location will be announced
- ECTS Points: 1



Administration

- Location: Library of the Nuclear Medicine at the AKH (Level 3, enter the «Leitstelle» and follow the signs to the «NUK Library» to your right)



- Evaluation Form: Will be handed out or is available from Prof. Mindt directly.



More Radiopharmaceutical Sciences

For those interested in the topic, it is highly recommended to sign up also for the following complementary classes:

Medizinische Radiochemie 1

Prof. Dr. Wolfgang Wadsak

- Nicht-metallische Radionuklide und deren Anwendung; Zyklotron-basierte Radionuklide (VO 270173)

Medizinische Radiochemie 2

Prof. Dr. Wolfgang Wadsack

- Radiopharmazeutika für die Hirnforschung (VO 270032)

Radiopharmazeutische Technologie

Prof. Dr. Markus Mitterhauser

- Grundlagen, Herstellung und Anwendung von radioaktiven Arzneimitteln (VO 320043)



Recommended Text Books

