



General Information

Module Title *Normal and Abnormal Bone in the Mouse*

Tutor Name(s) *J. Kühnisch, U. Kornak*

Location where module takes place *Charité, Institute for Medical Genetics
CVK, Forum 4
Forschungshaus
meeting in the entrance hall
07 to 11 September, 09:00 to 17:00*

Suitable for the tracks	<input checked="" type="checkbox"/> <i>Biology/Biochemistry Track</i>		
	<input checked="" type="checkbox"/> <i>Chemistry/Physics/Engineering Track</i>		
	<input checked="" type="checkbox"/> <i>Clinical Scientist</i>		
Type	<i>Practical; Seminar</i>	Level	<i>medium</i>
Days	<i>5</i>	Max. Participants	<i>4</i>

Objectives this module

This practical course gives an introduction into the methods and technology used to investigate bone morphology in the mouse. Bone as a living tissue is constantly renewed by removing old bone and replacing it with new bone. If this balance is disturbed, too little bone (as in osteoporosis) or too much bone (as in osteopetrosis) will develop. The molecular mechanisms of this cross talk can be best studied in genetically engineered mice.

After an introductory seminar the students will analyze transgenic mouse models with low and high bone mass by histological techniques and micro CT. After sectioning and staining of the tissue specimen the sections will be analyzed by digital image analysis. The micro CT images will also be quantified by according software. The results of the two methods will be compared.

Which course materials, software, or instruments do students use in this module?

*Materials: Bone specimen from different transgenic mouse models
Instruments: Viva 40 micro CT, Microm microtome, Olympus microscope
Software: Axiovision software, Image J, Excel*

What are the prerequisites for taking this subject?

Basic knowledge on histological techniques, endocrinology and bone biology
