Title of module	Modular Advanced Practical and Seminar in the Focal Point Programme "Molecular Medicine", VZ: 185780, 183781 **" Cancer Stem Cells and Molecular Oncology"**

Credit points	4	***Available in semester(s)***	1
Hours per week	5.25	***Compact course***	☒

Lecturer(s)	D. Strumberg and teaching assistants
Teaching methods	Two-week advanced laboratory course with an intergrated seminar, one of four lab courses to be completed in the first term
Evaluation of learning progress	Active participation in the laboratory tasks and seminar, feedback during the experiment
Mode of examination	Assessment of active and successful participation in the practical (50%) and a written project report (50%)
Learning objectives	To learn the theoretical background, detection and phenotypic as well as molecular characterization of Cancer Stem Cells (CSC); to learn how to understand own experimental results in the context of what is known in the research field; to learn how to plan and conduct an experiment: goals, methods, discussion of results and practical uses; understanding translational research in the way to link basic research and clinical oncology.
Soft skills	1. Writing protocols for scientific studies 2. Correct and specific scientific wording 3. Interpretation of own scientific data 4. Understanding, presentation and discussion of scientific publications

Contents of module	Molecular, biochemical, and cell biological experimental techniques to study stem cells in cancer - and in leukemia cell lines as well as in cells with stem-cell like phenotypes Methods, that can be learned: 1.- Cell culture and isolation of CD34+ cells from whole blood and leukemia cell lines 2.- Phenotypic characterization of cancer stem cells by FACS analysis 3.- Characterization of cancer stem cells by immunocytochemical methods (ICC)