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Reference letter for Felix Romer, B.Sc. Biological Chemistry

Mr. Felix Romer, born 31.08.1998 in Karlsruhe, was employed as a student assistant at the Institute of Molecular and Cell Biology in my research group in the period from 01.07.2022 to 31.08.2022.

Mr. Romer was involved in the establishment of research-oriented lab courses in our bachelor and master programs. In addition to standard microbiological and molecular biological methods, such as cultivation of bacteria, DNA preparation, restriction analyses and qualitative and quantitative gel electrophoresis, he implemented in particular the 2D and 3D cultivation of tumor cell lines, the microscopic analysis of spheroid formation and the acquisition of functional parameters with corresponding data analysis.

The scope of Mr. Romer's work included in detail:

- Support of Laboratory Courses:
o Preparation of various buffers and media for cell culture as well as molocular biology
o Aliquoting of samples/ buffers/ enzymes into scales suitable for practical work
o Bacterial cultivation (LB plates / LB media),
o DNA purification (plasmids / cosmids)
o Quality control and restriction analysis of purified DNA by restriction enzyme digestion and agarose gel electrophoresis
o Cultivation and cryopreservation of mammalian cells

- 2D and 3D (spheroid) cultivation and analysis of tumor cell lines:
o Cultivation and passaging of mammalian cells (here: breast cancer cell lines MDA-MB-231 and colon cancer cell line HT-29)
o Production and analysis of spheroids using varying cell numbers
o Analysis of spheroid formation under the influence of substances affecting cell growth; optimization of substance concentrations (dose-response analyses)

o Determination of metabolic activities in the spheroids by MTT assay in 96 well microtiter plate format
o Analysis and documentation of spheroid growth by inverted microscopy
o Spheroid size evaluation with Matlab (use of an existing program)
o Spheroid growth analysis with Python (own writing of a script for automatic evaluation and presentation of the obtained results and for use in future experiments)

Mr. Romer already brought ideal prerequisites for the tasks assigned to him, which he handled independently after a very short training period. Mr. Romer is very reliable and his working style was always characterized by careful planning and comprehensive scientific understanding. His data documentation and data analytics are excellent. In all areas of his work, Mr. Romer showed a high level of responsibility and initiative. He quickly grasps new methods and concepts, has good problem solving ability and is able to work independently very quickly. This includes also the necessary data handling and analysis at the corresponding scale. In summary, he performed the tasks assigned to him extremely independently and beyond our expectations.

Mr. Romer was a valuable member of our institute. On a personal level, I have found Mr. Romer to be an extremely pleasant and generous individual with sound judgement, who interacts comfortably with his peers and members of the institute. While interacting well with others in a team, he showed an independent working attitude and a strong work ethic. Beyond that, he has an open-minded, team-oriented personality and demonstrates a high degree of loyalty and trustworthiness to his work and to his associates.

Due to his studies, Mr. Romer is leaving our institute at his own request. We thank him for his excellent work and wish him continued success for his further studies.

Please do not hesitate to contact me for further information and questions.

Yours sincerely,

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(Prof. Dr. Petra Kioschis; Dean of Graduate Studies MSc Biotechnology; HS Mannheim – University of Applied Sciences)