

The role of USP18 in hematopoietic stem and progenitor cells

Short description	<p>Our research focusses on HIV pathogenesis and the Interferon (IFN) response, in particular the negative regulation of IFN-signalling by USP18.</p> <p>The prospective Master student will work with human hematopoietic stem and progenitor cells to (1) develop robust protocols for their genetic manipulation and (2) elucidate the role USP18 for their survival and differentiation.</p> <p>Aims of the project are:</p> <ol style="list-style-type: none">1. optimizing CRISPR/cas knockout of USP18 in cell lines2. optimizing the expansion of hematopoietic stem and progenitor cells3. achieving knockout of USP18 in CD34+ cells4. transducing miRNA to USP18 +/- into hematopoietic stem and progenitor cells5. monitoring cell viability in CD34+ cells with downregulation or knockout of USP186. differentiation of CD34+ cells with downregulation or knockout of USP187. further characterization of the effect of USP18 knockout in CD34+ cells in vitro
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Requirements	previous experience working with cell culture, commitment, and motivation
Web links	https://www.usz.ch/fachbereich/infektiologie/forschung/forschungsgruppe-roberto-speck/