Postdoctoral Research Fellow (f/m/x)

The University of Cologne offers a wide range of scientific disciplines and internationally leading profile areas organized in six faculties. At the Faculty of Medicine 1,800 scientists are engaged in research, ranging from basic sciences to clinical application, as well as teaching and health care. Together with the University Hospital Cologne the faculty maintains 58 clinics, research institutes and centres. 3,400 students study in this dynamic and innovative environment. The Faculty of Medicine and the University Hospital Cologne are embedded in the scientifically highly active Rhine region. They have strong contacts to and alliances with the surrounding universities and non-university research institutions guaranteeing scientific excellence in research and teaching.

The Max Eder Junior Research Group of Dr. Silvia von Karstedt, part of the Department of Translational Genomics (director: Professor Dr. Roman Thomas) within the Faculty of Medicine and located within the CECAD cluster of Excellence is hiring a full-time (38.5 hrs/week), highly qualified and motivated candidate for the position of:

Postdoctoral Research Fellow (f/m/x) in the areas of cancer cell biology and molecular biology

The position is limited until 31 December 2022 within the framework of a third-party funded project according to the WissZeitVG.

The von Karstedt lab is interested in how tumors are shaped by natural selection present within their niche as part of their early evolution prior to treatment. Amongst these selective sweeps, tumors are known to undergo constant cycles of selection via immune effector cells. One pathway via which immune effector cells kill target cells is extrinsic apoptosis induction via ligand/receptor binding of Tumor necrosis factor (TNF)- and TNF-receptor (TNFR) superfamily (SF) members (von Karstedt et al., Nat Rev Cancer, 2017; von Karstedt et al. Cancer Cell, 2015; Hartwig*, Montinaro*, von Karstedt* et al. Mol Cell 2017). Yet, given the fast kinetics and efficiency by which extrinsic apoptosis can eliminate targeted cells, it is not surprising that tumours frequently develop escape mechanisms against extrinsic apoptosis and the question arises which regulated cell death pathways remain available after these selective sweeps have taken place prior to targeted therapy. A recently described type of regulated necrosis, ferroptosis, may prove to be such a cell death pathway and is therefore studied in the lab (reviewed in Bebber. von Karstedt. Cancers 2020).

The postdoc project will functionally study how KRAS mutations induced by cigarette smoke-associated carcinogens are selected via regulated cell death during lung tumor development. Understanding mechanisms of this selection within the lung will uncover means for re-instanting cell death sensitivity in these tumors. To achieve this, state-of-the-art in vivo cancer models will be employed in combination with genomics and proteomics. The ideal candidate
for this position should be a highly talented scientist driven by the desire to make a relevant contribution to the treatment of cancer patients through exciting basic scientific discoveries. Candidates must have obtained a PhD or equivalent to qualify for this post. Prior experience with molecular biology, DNA biology and in vivo cancer models is desirable. Successful candidates will have a strong background in basic molecular and cell biology, biochemistry or similar areas.

Your responsibilities will include:

- Cloning and sequencing of mutated KRAS
- Isolation and culture of mouse primary cells of any type
- Analysis of tumor-infiltrating immune cell types and subtypes
- Mouse colony management for the experiment
- Generation of CRISPR-Cas9 edited cell lines
- Conduct collaborative efforts across disciplines

Required skills and qualifications:

- PhD in biochemistry, molecular biology, virology or a related field
- Advanced experience and publication record in cancer and cell death
- Expertise in DNA sequence investigation (sequencing etc.)
- Ability to independently drive research projects
- High level of motivation, enthusiasm, resilience and positivity
- Ability and willingness to work in a collaborative team
- Excellent communication in English (written and speech)

What we have to offer is a vibrant work environment with a dual affiliation with the Department of Translational Genomics and the Cluster of Excellence Cellular Stress Responses in Aging-Associated Diseases (CECAD). This offers the opportunity of mentoring and interactions with several global scientific leaders in their respective fields. In addition, the highly collaborative research environment in Cologne provides us with access to state-of-the-art core facilities, including genomics, proteomics and imaging as well as a close connection to the clinics.

Salaries are based on the TV-L agreement.

The University Hospital of Cologne places strong emphasis on equal opportunity and seeks to increase the proportional representation of women in this field.

Thus, applications from female scientists are welcome; suitably qualified women will be given preferential consideration unless other candidates clearly demonstrate superior qualification.

We also welcome applications from disabled candidates, who will also be given preferential consideration over other applicants with comparable qualification.

Please address telephone enquiries to Dr. Silvia von Karstedt +49 221 478-84340.
Further information is available on the internet here.

Please submit your application (including a letter of interest, detailed CV, list of publications, two reference letters).

We prefer online applications, but you also have the opportunity to apply via mail by 3 May 2020 quoting the reference number 00001689 to

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