2018 “中德博士后交流项目”介绍

德国亥姆霍兹联合会与中国全国博士后管委会于 2017 年 6 月签署了“中德博士后交流项目”合作协议，每年共同遴选和资助 50 名以内的中国优秀青年学者到亥姆霍兹联合会下属研究中心从事为期两年的博士后研究。

申请流程和结果通知

申请人应按全国博士后管委会办公室发布的公告，在项目申请截止之日前，按规定准备各项材料和如实填写相关表格，并将申请材料报送到同意对申请人进行推荐的博士后设站单位。博士后设站单位审核汇总申报材料报送全国博士后管委会办公室。全国博士后管委会办公室对所有申报材料进行汇总初核后转交德方，并由德方对各个申请人进行评估和面试。最后，由德方将拟定的合格人选通报中方，由全国博士后管委会办公室按程序报批后正式公布。

项目遴选结果将在中国博士后网（http://www.chinapostdoctor.org.cn）进行公布。项目入选人员应及时联系全国博士后管委会办公室，获取有关资助证明。然后以此为据联系外方单位和导师，落实工作协议，凭正式邀请和录取通知办理赴德签证。项目入选人员须在申报时所依托的推荐单位办理博士后进站手续。

联合资助的金额

全国博士后管委会办公室为每位项目入选者提供 30 万元人民币的一次性资助，由所依托的博士后科研工作站按月或双月形式发放给项目入选者。该资助经费多数情况下不能免税。德方亥姆霍兹研究中心给在每位项目入选者以奖学金形式提供每月 1500 欧元的免税现金资助。以上收入由项目入选者用于日常生活、健康保险以及参加学术交流所产生的相关开支。

更多信息请登陆：

http://www.helmholtz.cn/cooperation/helmholtz_ocpc_joint_postdoc_programme

附：慕尼黑亥姆霍兹研究所 Vigo Heissmeyer 实验室岗位

2018 Helmholtz – OCPC – Program
for the involvement of postdocs in bilateral collaboration projects

PART A

Title of the project:

"Analyzing the Functional Cooperation of Nufip2 and Roquin in the Immune System"

Helmholtz Centre and Institute:
Helmholtz Zentrum München, Research Unit Molecular Immune Regulation

Project leader:
Prof. Dr. Vigo Heissmeyer
Helmholtz Zentrum München, Research Unit Molecular Immune Regulation
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Description of the project (max. 1 page)**:**

Scientific background

The Roquin family proteins serve critical functions in the prevention of autoimmunity. These factors keep naive T cells in their quiescent state and inhibit the differentiation of activated T helper cells into pro-inflammatory Th17, Th1 and Tfh subsets. On the molecular level, the cytoplasmic Roquin-1 and Roquin-2 proteins inhibit gene expression by binding to the 3′-UTR of target mRNAs at specific stem-loop structures and by inducing mRNA decay. Our most recent work has demonstrated that Roquin-dependent recognition of mRNAs is supported by the Nufip2 protein, which we identified in a targeted siRNA screen for cofactors of Roquin-dependent ICOS regulation. Nufip2 was also shown to interact with the FMRP protein, but its function remained unclear. We demonstrated that Nufip2 forms a ternary complex with Roquin and RNA, enhances the affinity of the complex for the stem-loop containing response elements of the 3′-UTRs of ICOS and Ox40 and promotes Roquin-dependent mRNA decay. These findings involve Nufip2 as a novel cofactor of Roquin that may either be required for the efficient interaction of Roquin with all or with a subset of targets.

Scientific questions

In the proposed project we will ask these specific questions: What is the function of Nufip2 in immune cells? Which mRNAs does Nufip2 bind in T cells? Does Nufip2 regulate its target set in cooperation with Roquin or also with other RNA binding proteins? What is the phenotype of mice with Nufip2 deficiency in T cells or in the hematopoietic system and how can we molecularly explain these phenotypes?

Work packages

1. Generating a conditional Nufip2 knockout by CRISPR Cas9-mediated gene editing.
We will employ a homology-directed repair strategy to establish a conditionally targeted Nufip2 allele in the mouse germline.

2. Determining the relative expression levels of Nufip2 in immune cells.
Within a knockout/wild-type comparison, we will determine the relative expression levels of Nufip2 in different cells of the hematopoietic system.

3. Analyzing cooperative Nufip2/RNA binding sites in the transcriptome of T cells.
Using the PAR-CLIP technology we will determine Nufip2 specific binding sites in the transcriptome of T cells by comparing WT to Roquin-1/Roquin-2 DKO or Fmr1-/- T cells.

4. Phenotyping of Nufip2-deficient mice.
We will determine phenotypes that arise from Nufip2 deletion in the hematopoietic system or in peripheral T cells.

5. Elucidating the molecular mechanisms of Nufip2 functions.
We will identify the Nufip2-regulated target genes and determine their regulation by Nufip2, Roquin or FMRP.

Description of existing or sought Chinese collaboration partner institute (max. half page)**:**

Our research unit is currently building up collaborations with several research groups in China. I have close interactions with researchers in Xiamen University, Xiamen and Tongji Medical College, Huazhong University of Science and Technology, Wuhan working on post-transcriptional gene regulation in T cells. During the 6th Chinese-German Symposium on Immunology in Hangzhou, where I have been invited to, I interacted with the community of Chinese immunologists and I would be happy to receive a postdoc from this network.

Required qualification of the post-doc:

We are searching for a highly-motivated postdoctoral research fellow with enthusiasm for molecular immunology. She or he should have

- a PhD in biology, biochemistry or molecular medicine
- experience in immunology, biochemistry and molecular biology
- interest in studying immune responses in mice
- the ability to work independently in an international team
- good skills in English (speaking and writing)

PART B

Documents to be provided by the post-doc, necessary for an application to OCPC via a postdoc-station:

- Detailed description of the interest in joining the project (motivation letter)
- Curriculum vitae, copies of degrees
- List of publications
- 2 letters of recommendation
- Proof of command of English language

PART C

Additional requirements to be fulfilled by the post-doc:

- Max. age of 35 years
- PhD degree not older than 5 years
- Very good command of the English language
- Strong ability to work independently and in a team