Doctoral (PhD) student position in mechanisms of cellular redox signalling

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Do you want to contribute to top quality medical research?

To be a doctoral student means to devote oneself to a research project under supervision of experienced researchers and following an individual study plan. For a doctoral degree, the equivalent of four years of full-time doctoral education is required.

The research group

The Arnér research group at the Division of Biochemistry, Department of Medical Biochemistry and Biophysics, has world leading expertise in studies of selenoproteins and redox biochemistry. The laboratory has top-of-the-line facilities, and with 10-15 students and researchers all being focused on different areas of redox biology it is a vibrant research environment, providing excellent learning opportunities for the dedicated and talented doctoral student. For further information about the research group, see https://ki.se/en/mbb/elias-arner-research-group.

The doctoral student project and the duties of the doctoral student

We are currently recruiting a new doctoral student for a project focused on a better understanding of the functional properties of the two proteins of the thioredoxin system named TXNIP and TRP14. We recently found that humans having a lack of TXNIP display low serum methionine and high lactate, with a deficiency in cellular respiration on pyruvate. We are now asking what the exact molecular mechanisms leading to this phenotype would be, and we wish to study whether the effects of TXNIP deletion are due to distorted functions of the thioredoxin system or whether they are independent of this system. The other protein, TRP14 encoded by the TXNDC17 gene, is a recently discovered well-conserved member of the thioredoxin system still in search of a crucial functional role. We have shown that TRP14 can be involved in control of several steps of redox signalling, but have good reason to believe that the enzyme has additional yet uncharacterized important roles. In this doctoral student project we will furthermore ask whether TXNIP and TRP14 have functional interactions in cells. The thioredoxin system has been studied by this group for more than 25 years, and this project aims at furthering the knowledge of how TXNIP and TRP14 play functional roles for human in control of metabolism, redox signalling and cell survival. The student is expected to study these questions using a combination of enzyme assays, mammalian cell culture experiments and in-depth analyses including pharmacokinetics, cell death assays and high-throughput screens. Animal experiments will likely also be conducted through collaborations. It is expected that the successful candidate for this position is highly
dedicated and talented, has a proven track record in relevant fields of study, and will be able to conduct the doctoral studies at full time, effectively starting immediately.

What do we offer?
A creative and inspiring environment full of expertise and curiosity. Karolinska Institutet is one of the world's leading medical universities. Our vision is to pursue the development of knowledge about life and to promote a better health for all. At Karolinska Institutet, we conduct successful medical research and hold the largest range of medical education in Sweden. As a doctoral student you are offered an individual research project, a well-educated supervisor, a vast range of elective courses and the opportunity to work in a leading research group. Karolinska Institutet collaborates with prominent universities from all around the world, which ensures opportunities for international exchanges. You will be employed on a doctoral studentship which means that you receive a contractual salary. Employees also have access to our modern gym for free and receive reimbursements for medical care.

Eligibility requirements for doctoral education
In order to participate in the selection for a doctoral position, you must meet the following general (A) and specific (B) eligibility requirements at latest by the application deadline.

It is your responsibility to certify eligibility by following the instructions on the web page Entry requirements (eligibility) for doctoral education.

A) General eligibility requirement
You meet the general eligibility requirement for doctoral/third-cycle/PhD education if you:

1. have been awarded a second-cycle/advanced/master qualification (i.e. master degree) or
2. have satisfied the requirements for courses comprising at least 240 credits of which at least 60 credits were awarded in the advanced/second-cycle/master level, or
3. have acquired substantially equivalent knowledge in some other way in Sweden or abroad.*

Follow the instructions on the web page Entry requirements (eligibility) for doctoral education.

*If you claim equivalent knowledge, follow the instructions on the web page Assessing equivalent knowledge for general eligibility for doctoral education.

B) Specific eligibility requirement
You meet the specific eligibility requirement for doctoral/third-cycle/PhD education if you:

- Show proficiency in English equivalent to the course English B/English 6 at Swedish upper secondary school.

Follow the instructions on the web page English language requirements for doctoral education.

Verification of your documents
Karolinska Institutet checks the authenticity of your documents. Karolinska Institutet reserves the right to revoke admission if supporting documents are discovered to be fraudulent. Submission of false documents is a violation of Swedish law and is considered grounds for legal action.

Skills and personal qualities
The successful candidate have to be able to demonstrate a proven skill in academic research of highest international quality, preferably through a track record with prior publications and/or presentations at international conferences. The student must be fluent in English, have good social skills, and be highly dedicated to the forthcoming studies. Excellent technical skill in biochemical methods, mammalian cell culturing, toxicology and pharmacokinetics will also be important.
Terms and conditions
The doctoral student will be employed on a doctoral studentship maximum 4 years full-time.

Application process
Submit your application and supporting documents through the Varbi recruitment system. Use the button in the top right corner and follow the instructions.

Your application should contain the following documents:
- A personal letter and a curriculum vitae (Swedish or English)
- Degree projects and previous publications, if any (Swedish or English)
- Any other documentation showing the desirable skills and personal qualities described above (Swedish or English)
- Documents certifying your general eligibility (see A above)
- Documents certifying your specific eligibility (see B above)

Selection
A selection will be made among eligible applicants on the basis of the ability to benefit from doctoral education. The qualifications of the applicants will be evaluated on an overall basis. The top applicant(s) will be interviewed by the Doctoral Student Selection Committee of the department, following the routines outlined here: https://ki.se/en/mbb/doctoral-educationphd-studies-at-mbb

Karolinska Institutet uses the following bases of assessment:
- Documented subject knowledge of relevance to the area of research
- Analytical skill
- Other documented knowledge or experience that may be relevant to doctoral studies in the subject.

All applicants will be informed when the recruitment is completed.

Want to make a difference? Join us and contribute to better health for all

Type of employment
PhD placement

Contract type
Full time

First day of employment
As soon as possible, upon agreement

Salary
Monthly

Reference number
2-2072/2020

Contact
Elias Arner, 08-524 869 83

Union representative
Hongyan Xia, SACO, hongyan.xia@ki.se
Venus Azhary, OFR, 0707-124 127

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