JOB OFFER – Post-Doc

A postdoctoral research position is available to participate in a research collaboration between two laboratories, that has been designed to better characterize age related changes in the multipotency of VSELs and their effectiveness in repair of tissue/organ injury

Project Title:  
*Aging and multipotency of adult stem cells*

Project Background:  
Sca-1+lin-CD45- very small embryonic-like stem cells (VSELs) are present in adult murine organs, including bone marrow (BM). It has been hypothesized that VSELs are deposited during early gastrulation in developing organs, and survive into adulthood in order to play an important role in tissue rejuvenation as a backup population of pluripotent/multipotent stem cells available for repair of multiple different organs. To support this, as recently demonstrated, BM-residing VSELs can be specified into hematopoietic stem cells, type II pneumocytes of lung alveolar epithelium, and mesenchymal stem cells in vivo. However, the number of VSELs in adult BM decreases with the age.

VSELs differentiated in vitro using co-culture systems can grow spheres that contain multiple differentiated cell types including cells from all three germ layers. Molecular analyses have shown that VSELs have i) primitive euchromatin, ii) intrinsic expression of Oct4 and Nanog with associated hypomethylated promoter state and binding of acetylated histones, iii) bivalent domains at the promoters of homeodomain-containing developmental transcription factors genes, and iv) reactivation of the X chromosome in female VSELs. The unusual level of quiescence of VSELs and their gradual loss from the BM with aging may be controlled by epigenetic changes in certain imprinted genes (i.e., Igf-2-H19, Rasgrf1, Igf2R loci) that regulate signaling of insulin and insulin-like growth factors -1 and -2. This epigenetic state may change with the age.

A postdoctoral research position is available to participate in a research collaboration between two laboratories, that has been designed to better characterize age related changes in the multipotency of VSELs and their effectiveness in repair of tissue/organ injury.

We are looking for a highly motivated person to participate as a post-doctoral fellow within scientific project at the Pomeranian Medical University in Szczecin with collaboration with Yale Medical School.

Supervisors: Mariusz Ratajczak, MD, PhD, DSc and Diane Krause, MD, PhD  
Type of employment relationship: Contact of mandate  
Employing entity: Pomeranian Medical University in Szczecin, Faculty of Medicine  
Application deadline: 20th September, 2015  
Expected start date: November 2015  
Duration: 30-month position  
Salary: to be discussed
**Eligibility:**
A suitable applicant should have the following qualifications:

1. PhD degree in Biology or Biotechnology
2. Basic previous experience in at least two of the following cellular/molecular biology techniques: PCR, qRT-PCR, western-blotting, ELISA chromatin immunoprecipitation (ChIP), flow cytometry
3. Academic background in cell biology, molecular biology, and/or genetics.
4. Scientific research experience (full-text international publications, full-text articles published in Polish journals, international abstracts, active participation in (inter)national meetings, and scientific courses)
5. Ability to work independently
6. The candidate is required to have knowledge of stem cell biology
7. Good knowledge of English
8. Strong interest in science

**How to apply:**
Please send:

1. Letter of interest
2. CV
3. Publication list
4. Photo
5. Contact details of 2-4 potential referees
to: diane.krause@yale.edu and mzrata01@louisville.edu.

All documents should be sent as PDF files.
The e-mail heading should be: „Post-doc – Harmonia grant”.

Please provide also the statement that you grant us a permission to process your personal details for the recruitment process:
"Wyrażam zgodę na przetwarzanie moich danych osobowych zawartych w zgłoszeniu dla potrzeb rekrutacji, zgodnie z ustawa z dnia 29 sierpnia 1997 roku o ochronie danych osobowych. (Dz. U. z 2002 r. Nr 101, poz. 926 z późn. zm.)."

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