The role of Leukaemia Inhibitory Factor (LIF) in prostate cancer bone metastases

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Once prostate cancer metastasizes to bone it becomes incurable. Therefore there is a pressing need for early detection and treatment of bone-metastatic prostate cancer. We have identified that the cytokine LIF is increased in bone metastatic prostate cancer, and this project aims to determine how LIF promotes prostate cancer-induced bone disease and whether LIF can act as a biomarker of disease progression. The project will use a powerful combination of in vitro coculture systems, clinical samples and in vivo models of prostate cancer bone disease, providing a unique training opportunity within the fields of oncology, bone biology and urology. Research training will be provided in cellular and molecular biology, in vivo models and imaging and the use of clinical samples. The studentship is funded by Prostate Cancer UK. Prostate Cancer UK is keen to support and engage the scientists they work with. Throughout your PhD studentship, they will offer opportunities to build networks and interact with them, their supporters and with other scientists they support

The student will be embedded within the Bone Oncology Group www.ndorms.ox.ac.uk/research.php?group=boneoncology, based in the Botnar Research Centre. The student will attend weekly lab meetings of the Bone Oncology Group and regular Uro-Oncology Focus Group meetings. The student will be a member of the Nuffield Dept. of Surgical Sciences. A DPhil training programme and regular seminar series is provided, introducing all students to the multidisciplinary nature of the department. The studentship is associated with a graduate place at St. Edmund Hall, with accommodation available within the college (at charge) for the first year.

Funding
The studentship covers a stipend of £16,000 pa for 3 years and University & college fees at Home/EU rates.

Entry requirements
Applicants should have or expect to obtain a first or upper second class (2i) BSc degree (or European equivalent) in the Biological Sciences. The studentship is only open to applicants who qualify to pay fees at the Home/EU rate.

To apply please use the University of Oxford's online application system at: www.ox.ac.uk/admissions/postgraduate_courses/apply/. Please choose the programme "DPhil in Surgical Sciences" (Course Code: 002251), quote the studentship reference code NDS14/002, and select St. Edmund Hall as your preferred college. Any queries regarding the application procedure please contact graduate.studies@nds.ox.ac.uk. Any queries regarding the project, please contact claire.edwards@ndorms.ox.ac.uk. Please note that as this is a studentship project no research proposal is required. Please submit a statement of purpose/personal statement in its place. Closing date for applications is 13th of June 2014.

References

1. Olechnowicz, S.W.Z., **Edwards, C.M.** Contributions of the host microenvironment to cancer-induced bone disease. (2014) *Cancer Research*, 74(6): 1625-31.
2. Fowler, J.A., Lwin, S.T., Drake, M.T., Edwards, J.R., Kyle, R.A., Mundy, G.R., **Edwards, C.M.** Host-derived adiponectin is tumor-suppressive and a novel therapeutic target for multiple myeloma and the associated bone disease. (2011) *Blood* 118; 5872-82.
3. Cazier JB, Rao SR, McLean CM, Walker AL, Wright BJ, Jaeger EE, Kartsonaki C, Marsden L, Yau C, Camps C, Kaisaki P; Oxford-Illumina WGS500 Consortium, Taylor J, Catto JW, Tomlinson IP, Kiltie AE, **Hamdy FC**. Whole-genome sequencing of bladder cancers reveals somatic CDKN1A mutations and clinicopathological associations with mutation burden. Nat Commun. 2014 ;5:3756.