DIVISION OF INFECTION & IMMUNITY

Job Description

Job Title:	**Research Associate (4 posts)**
Centre:	Institute of Immunity & Transplantation, Division of Infection and Immunity
Responsible to:	Professor Hans Stauss & Professor Emma Morris
Salary:	Grade 7 scale, £33,686 - £40,716 per annum inclusive of London Allowance
Location:	Royal Free Campus, Rowland Hill Street, Hampstead, London, NW3 2PF
Leave Entitlement:	27 days per annum plus Bank Holidays and College Closure days
Duration:	The position is funded for three years in the first instance.

We are looking for a highly motivated and committed postdoctoral scientist with expertise in molecular biology and/or cellular immunology. The post will offer the opportunity to take the responsibility for defined research projects to enhance our understanding of T cell function and use genetic engineering to improve T cell therapy. We offer mentoring and provide active support to promote the career development of junior scientists.

Information about the post and the host laboratory

Professor Hans Stauss and Professor Emma Morris are leaders in genetic engineering of immunity to redirect the specificity and improve the function of therapeutic T cells. The major focus of the laboratory work is the development of TCR gene therapy, which spans from basic immunology research to preclinical animal models of cancer treatment and to clinical trials of TCR-engineered T cells in patients.

Funded by a 3-year research grant from Cell Medica, there is now the exciting opportunity to start a new programme of work and use molecular engineering to design second generation TCR gene therapy constructs, perform detailed immunological analysis *in vitro* and in animal models *in vivo*, with the view to select the best performing products for safety and efficacy testing in clinical trials.

These four postdoctoral posts are funded by the 3-year research programme from Cell Medica. Each postdoctoral post will be responsible for leading one of 4 projects to:

i) exploit molecular tools to improve TCR expression and function
ii) define the role of accessory molecules in TCR gene therapy
iii) use genetic engineering to modulate T cell function
iv) design genetic switches to improve TCR gene therapy

The funded programme will also enable the appointment of 2 research technicians, who will work closely with the four postdoctoral researchers to complete the per-clinical *in vitro* and *in vivo* research required to achieve the goals of the programme. All 6 posts will join the UCL Institute of Immunity & Transplantation where the appointees will become members of the established research laboratory that is jointly led by Profs Stauss and Morris.

The Institute of Immunity & Transplantation, based at the Royal Free Hospital, is part of the UCL Division of Infection & Immunity. There are more than 12 immunology research groups at the Institute with more than 60 postdoctoral researchers and PhD students. Work at the Institute aims to translate advances in the understanding of the immune system into improved therapies for patients. The Institute's close links to the Royal Free London NHS Foundation Trust provides an excellent interface between science and medicine. For more information about the Institute please visit: https://www.ucl.ac.uk/immunity-transplantation.

Recent papers of our research group

Morris, EC. And Stauss HJ. Optimizing T cell receptor gene therapy for hematologic malignancies. Blood. 2016 Jun 30;127(26):3305-11

Holler, A., Zech, M., Ghorashian, S., Pike, R., Hotblack, A., Veliça, P., Xue, S, Chakraverty, R., Morris, EC. and Stauss, HJ. Expression of a dominant T cell receptor can reduce toxicity and enhance tumor protection of allogeneic T cell therapy. Haematologica. 2016 Apr;101(4):482-90

Voss, RH, Knies, D., Klobuch S., Xue, S., Birtel M., Echchannaoui, H, Yildiz, O, Omokoko, T., Guillaume, P., Romero , Stauss, HJ., Sahin, U., Herr, W., Theobald, M., Thomas, S. An optimized single chain TCR scaffold relying on the assembly with the native CD3-complex prevents residual mis-pairing with endogenous TCRs in human T-cells. Oncotarget. 2016 Apr 19;7(16):21199-221

Pike, R., Thomas, N., Workman, S., Ambrose, L., Guzman, D., Nguyen, J., Johnson, M., Thorburn, D., Harber, M., Chain, B. and Stauss, HJ. High dimensional immune monitoring identifies PD1-expressing T cell subsets as a risk factor for rejection episodes in renal transplant patients. Front Immunol. 2016 Apr 11;7:126

Velica P, Zech M, Henson S, Holler A, Manzo T, Pike R, Santos E Sousa P, Zhang L, Schledlmeier B, Pule M, Stauss H, Chakraverty R. Genetic regulation of fate decisions in therapeutic T cells to enhance tumor protection and memory formation. Cancer Res. 2015 2015 Jul 1;75(13):2641-52

Stauss HJ, Morris EC, Abken H. Cancer gene therapy with T cell receptors and chimeric antigen receptors. Curr Opin Pharmacol. 2015 Sep 3;24:113-118

Zech MH, Velica P, Stauss HJ. T Cell Tuning for Tumour Therapy: Enhancing Effector Function and Memory Potential of Therapeutic T cells. Curr Gene Ther. 2015;15(3):289-99.

Ghorashian S, Veliça P, Chua I, McNicol AM, Carpenter B, Holler A, Nicholson E, Ahmadi M, Zech M, Xue SA, Uckert W, Morris E, Chakraverty R, Stauss HJ. CD8 T Cell Tolerance to a Tumor-Associated Self-Antigen Is Reversed by CD4 T Cells Engineered To Express the Same T Cell Receptor. J Immunol. 2015 Feb 1;194(3):1080-9

Qasim W, Brunetto M, Gehring A, Xue SA, Schurich A, Khakpoor A, Zhan H, Ciccorossi P, Gilmour K, Cavallone D, Moriconi F, Farzhenah F, Mazzoni A, Chan L, Morris E, Thrasher A, Maini M, Bonino F, Stauss H, Bertoletti A. Immunotherapy of HCC metastases with autologous T cell receptor redirected T cells targeting HBsAg in a liver transplant patient. J Hepatol. 2015 Feb;62(2):486-91

The Post of Research Associate

UCL is a lively and sociable academic institute striving for excellence in research. There is an established track record for postdoctoral staff gaining personal fellowships and independently minded and talented investigators will be encouraged and supported in seeking such fellowship support.

The postholder/s will be expected to perform high quality research as part of a well-established research team under the direction of Professors Stauss and Morris. We are seeking highly motivated individuals with the ability to lead research projects and pursue them with determination and creativity.

Applicants should have a PhD and experience in a molecular biology and/or cellular immunology. The successful candidate/s will also be able to communicate effectively and ideally have experience of drafting and submitting academic papers for peer reviewed publication.

The postholder/s will be required to:

- Contribute considerable intellectual and technical input into the project and the experimental design
- Work collaboratively with other members of the team.
- Present data in lab meetings as well as at national and international meetings.
- Aid in the training and supervision of junior members of staff/students working in the laboratory, including BSc and MSc students.
- Prepare their results for publication.
- Maintain an ongoing knowledge of the relevant scientific literature and advancements in the field.
- The nature of scientific work means it may be necessary to work outside normal working hours in order to complete an experiment.
- To have a sound grasp of current genetic manipulation and containment regulations; practices and safety issues, particularly in relation to the topic being researched, and to comply with these at all times.
- To keep accurate records of all experimental work in the notebook.
- To maintain the effective running of laboratory equipment relevant to the project and to trouble-shoot problems where necessary, liaising with service engineers as necessary.
- Note: this job description reflects the present requirements of the post. As duties and responsibilities change and develop the job description will be reviewed and be subject to amendment in consultation with the post holder.

Person specification

The following is a list of essential and desirable requirements needed in order to do the job. Applicants will be shortlisted solely on the extent to which they meet these requirements.

Competency	Evidence	E/D
Knowledge and Experience	• PhD (or equivalent experience) (or equivalent degree) or about to be awarded a PhD in a relevant subject. • Proven track record of publishing high impact papers in peer reviewed journals on immunology. • Significant experience of research in T cell biology. • Experience with retro and lentiviral vectors. • Familiarity with software packages for molecular biology. • Experience with animal models of T cell transfer.	E D E E D D
Communication	• Excellent oral communication skills. • Keen to learn and share scientific ideas. • Ability to deal pleasantly & effectively with a wide range of people. • Experience of undertaking research work within large multidisciplinary teams.	E E E E
Teamwork and Motivation	• Self-motivated and enthusiastic. • Willingness and ability to work as part of a team.	E E
Liaison and Networking	• Willingness and ability to exchange information with team members, internal and external contacts (e.g. inform team members of matters pending). • Awareness of the confidentiality of unpublished work performed in the laboratory	E E
Service Delivery	• Ability to react effectively to requests from the Team Leader	E
Planning and Organising Resources	• Ability to organise and prioritise work. • Ability to work safely and effectively with a minimum of supervision.	E E
Initiative and Problem Solving	• Ability to use initiative. • Ability to resolve operational difficulties. • Desire to develop the role.	E E E
General	• Commitment to UCL's policies including Equal Opportunities and Race Equality policies. • Maintain an awareness and observation of Fire and Health & Safety Regulations.	E E

E = Essential
D = Desirable