

# The Cambridge BioResource NEWSLETTER



Bringing together local people and leading research /Issue 4

## The BioResource goes national!

**Due to the success of the Cambridge BioResource we are delighted to report that the BioResource model is being rolled out at six other centres across the South and East of England.** The initiative is being funded by the National Institute for Health Research (NIHR) and together, these seven centres will make up the NIHR BioResource. The headquarters will be in Cambridge with other centres at the NIHR Biomedical Research Centres at Imperial, Guy's and St Thomas', South London and Maudsley, Oxford, University College London Hospitals, and the Leicester Cardiovascular Biomedical Research Unit (BRU). Further details can be found at [bioresource.nihr.ac.uk/](http://bioresource.nihr.ac.uk/)

The aim of the NIHR BioResource is to build on and integrate existing resources at these seven centres to support the continued recruitment of volunteers and patients into experimental medicine studies and clinical trials. In future it is hoped that recruitment will extend to additional sites across the whole of the UK.

By forming a network under the umbrella of the NIHR BioResource it will be possible to maximise resources and expertise and bring benefits to researchers and professionals across the country. The NIHR BioResource will be stronger than the sum of its parts and will offer an incredible resource that will open up new research possibilities.

As the NIHR BioResource grows, opportunities for participation will open up to more volunteers across the country. By the end of 2013 it is anticipated that there will be in excess of 20,000 volunteers recruited and by 2017 this number is expected to exceed 100,000.

With such large numbers of volunteers it will be possible to make further advances in research improving our understanding of the genetics underpinning many conditions. One area of research that will particularly benefit is the study of rare diseases where identifying and recruiting patients with rare diseases is particularly challenging and requires a fully collaborative approach across a large number of centres. Rapid and improved access to research volunteers will help promote world class experimental medicine and early clinical phase trials and assist in the development of new drugs or treatments that will ultimately improve healthcare for all.



### The Cambridge NIHR BioResource Open Evening

**The Cambridge NIHR BioResource will be holding their second volunteer Open Evening on Thursday 28th November 2013. All members are cordially invited. See the back page for more details.**

# Translating Research Results into Clinical Practice

**Since being established in 2005, the Cambridge BioResource has helped research into a range of health issues and common diseases.** Most of this research has focused on specific genes known to be linked to disease risk. By recalling volunteers to take part in studies based on their genotype it has been possible to improve our understanding of a number of genes involved in disease, as you can see from our list of publications.

As researchers develop a better understanding of the biological pathways associated with expression of specific genes in the development of disease, the next step is to attempt to find ways to intervene in these pathways to either slow the development of the disease or prevent it altogether. This approach of translating research findings into clinical solutions moves research forward and takes it closer to the stage where it can begin to benefit patients.

In order to facilitate translational research the Cambridge BioResource is interested in developing collaborations with organisations that specialize in this approach, including pharmaceutical companies.

The Cambridge BioResource is currently involved in projects with investigators at the University of Cambridge and at GlaxoSmithKline (GSK) Pharmaceuticals. We hope that these will mark the first of many such relationships and look forward to seeing how the studies progress.

The Cambridge BioResource is currently supporting research studies investigating, new ways of treating type 1 diabetics, a potential treatment for some forms of addiction, and the role of serotonin in some compulsive behaviours.

During recent years we have asked volunteers whether they would be happy to participate in studies of a commercial nature and we have received a majority of responses in favour. We do value all of our volunteers wishes so if any volunteer has expressed a wish not to be involved in studies of a commercial nature this will be taken into account with their future invitations. If anyone has strong views about this we would love to hear from you.

We would like to reassure you that you can continue to opt out of any studies that you are invited to. If you would rather not receive any invitations to studies involving pharmaceutical companies please get in touch so we can update your record.



## RESEARCH PUBLICATIONS

A full list of publications and details of all studies that have used the CBR can be found on our website: [www.cambridgebioresource.org.uk/pages/publications.shtml](http://www.cambridgebioresource.org.uk/pages/publications.shtml)

## Patient Recruitment

Over the past eight years the Cambridge NIHR BioResource has grown as a panel of research volunteers and successfully supported a large number of research studies, both local to Cambridge and further afield. The ability to efficiently and rapidly enrol healthy volunteers into research studies and trials on the basis of their genetic make-up in combination with their phenotype has accounted in part for the early success of the Cambridge BioResource initiative. The next focus for the CBR is to support clinical trials in patients. In order to do this we are actively collaborating with and recruiting patients into CBR from a variety of clinics across the Addenbrooke's campus. This exciting new recruitment drive will expand the volunteer panel even further and provide opportunities for future collaborations with academic researchers and partners in industry to translate research results and bring benefits closer to the patients' bedside

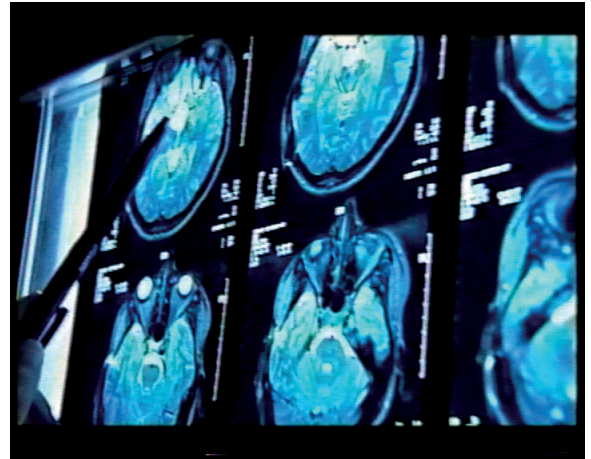
# Research Areas

The Cambridge NIHR BioResource is currently supporting a huge range of different research studies. Here we focus on two studies and the research areas under investigation.

## A study of the long-term safety and mechanism of action of alemtuzumab (Campath-1H)

Multiple sclerosis (MS) is the most common cause of disability in young adults in the western world. MS is a condition of the central nervous system that causes the immune system to attack myelin, which protects nerve fibres. This can cause a range of neurological symptoms.

The Cambridge NIHR BioResource is working with a research team led by Dr Stephen Sawcer and Dr Alasdair Coles of the University of Cambridge Department of Clinical Neurosciences at Addenbrooke's Hospital. The team is investigating the role of a number of genes and is particularly interested in comparing the immune system of individuals with different genetic make-ups to patients with multiple sclerosis that have been treated with a potential new drug called alemtuzumab.



The study team is also investigating how to detect people who are susceptible to side effects from the drug and they are preparing for future clinical trials of drugs that will hopefully reduce the risk of side effects. Cambridge BioResource volunteers are able to help with this study by simply providing a blood sample.

## Adaptive study of IL-2 dose on regulatory T cells in type 1 diabetes (DILT1D)

Type 1 diabetes is the most common severe chronic autoimmune disease in the world and it is becoming more common. Type 1 diabetes causes the immune system to mistake cells in the pancreas as harmful and attack them. When these cells are damaged the pancreas is unable to produce insulin, which plays an essential role in transferring glucose out of the bloodstream and into cells to be converted into energy.

The management of type 1 diabetes usually involves measuring the amount of glucose in the blood and injecting artificial insulin to make up for the insulin the pancreas is not producing.

Dr Frank Waldron-Lynch and his team at the Cambridge Institute for Medical Research are investigating a potential new treatment for type 1 diabetes, using a drug called aldesleukin (interleukin-2). The research team is investigating whether this medication can halt the damage to the pancreas of people with newly diagnosed type 1 diabetes and if so, what dose of the drug is required for the best results.



For a full list of our upcoming studies, please visit our website: [www.cambridgebioresource.org.uk/pages/studies.shtml](http://www.cambridgebioresource.org.uk/pages/studies.shtml)



# News

## The Cambridge NIHR BioResource Open Evening

We are pleased to announce we will be holding a volunteer Open Evening on Thursday 28th November 2013 at the Cancer Research UK/Cambridge Institute. The evening will commence at 5pm with talks starting at 5.30pm.

We expect to confirm several speakers, all of whom are undertaking research with the help of Cambridge NIHR BioResource volunteers. Volunteers will also be able to meet researchers in person to discuss their work over light refreshments. Further details about the evening will be available on the website as soon as they are confirmed:

[www.cambridgebioresource.org.uk](http://www.cambridgebioresource.org.uk).



All volunteers are welcome but due to the size of the venue, places are limited and will be allocated on a first come first served basis. We are using an online booking facility for this event, so please go to [www.eventbrite.co.uk/event/8168322673](http://www.eventbrite.co.uk/event/8168322673) to book your free ticket. Alternatively, you can book your ticket by phone by calling the CBR office on **01233 769215**. We recommend early booking to avoid disappointment.

## Dear volunteers

It has been eight years since the Cambridge BioResource was established and we have come a long way in that time. 2013 has been a great year that has seen the BioResource expand into many new areas. We have continued to go out into the community with our Health Research Unit as well as recruiting patients from clinics at Addenbrooke's Hospital. We are supporting a multitude of studies, some of which involve collaborating with pharmaceutical companies, and we are looking forward to helping translate medical research into clinical practice. None of our research would be possible without the generosity of our volunteers and I would like to take this opportunity to thank you all for being involved and for giving us your continued support.

*Sarah Nutland*



## THE CAMBRIDGE NIHR BIORESOURCE LAY PANEL

The Cambridge NIHR BioResource Lay Panel has been established for volunteers to have an official forum for providing feedback and so a volunteer's perspective is represented during decision making processes. As part of their role, lay members are invited to attend the BioResource Executive Board, which meets annually to oversee and monitor CBR activities and performance. The next meeting will be held later this year and volunteer feedback is welcomed.

The Panel met for the first time in January and among their recommendations they requested more regular newsletters and volunteer events. They also asked us to include an invitation in this newsletter to volunteers who would either like to join the Lay Panel, or who have queries or concerns they wish the Panel to raise.

Please email us at [cbr@cambridgebioresource.org.uk](mailto:cbr@cambridgebioresource.org.uk) if you would like to contact the Panel.



*(Mr Red is one of the members of our logo. He has taken time out of his busy schedule to answer a common question)*

## Ask Mr Red!



**Q. When I was reading about one of the Cambridge BioResource studies the acronym 'SNP' was used. What does it stand for and what does it mean?**

**A.** SNP stands for single-nucleotide polymorphism and is pronounced 'snip'. A SNP is a tiny variation in a DNA sequence. DNA sequences are composed of four different nucleotides denoted A, T, C and G. A SNP is a genetic variation of just one of these nucleotides between two different sequences.

SNPs occur as natural mutations and can occasionally be implicated in disease risk. They are also useful markers for locating genes. For those reasons and because SNP genotyping has become routine in recent years, SNPs play a large part in many areas of genetic research.

**The Cambridge NIHR BioResource**

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