

The Cambridge BioResource NEWSLETTER



Bringing together local people and leading research / Autumn 2010

Celebrating 5 years...

This year, the Cambridge BioResource (CBR) celebrates its 5th birthday and we thought it was timely to look back and see how far we've come over the last 5 years.

Here are some of our milestones:

January 2005: Recruitment to the CBR begins with a radio campaign and poster advertising. Recruitment of volunteers proves challenging and only 30 volunteers are recruited by December 2005.

March 2006: A collaboration is established with the Medical Research Council (MRC) Cognition and Brain Sciences Unit (CBU). Their panel members are offered the opportunity to join the CBR. Buoyed by the success of this partnership, the CBR panel grows to 800 volunteers.

June 2007: Following a successful collaboration with the NHS Blood and Transplant (NHSBT), 4,000 blood donors join the CBR during their regular blood donor sessions.

December 2007: The first 86 volunteers are invited to take part in a study investigating the genes and mechanisms of type 1 diabetes.

March 2008: The CBR is recognised as an important local research resource and is granted funding by the National Institute for Health Research (NIHR) / Cambridge Biomedical Research Centre (CBRC) until 2012.

December 2008: Over 1,000 volunteers have taken part in 5 different studies, including research into cardiovascular disease, brain function and metabolism.

June 2009: Another 4,000 blood donors join the CBR in the second phase of the NHSBT recruitment drive, bringing the total number of volunteers to over 9,000.

June 2010: 5 years after its inception, the CBR has grown to a panel of over 9,500 volunteers; has 12 staff members based on the Addenbrooke's campus and has invited over 3,500 volunteers to participate in 8 different research studies.



Thank you to all our volunteers and supporters for making the CBR such a success. Here's to the next 5 years!

CURRENT RESEARCH

Cambridge Crohn's and Colitis gene study

(August 2010) DR MILES PARKES

Dr Parkes, Consultant Gastroenterologist at Addenbrooke's Hospital, and his team aim to identify the genes that are associated with increased risk of Crohn's disease or ulcerative colitis by studying DNA and RNA both from individuals with these severe forms of bowel inflammation and from people without these diseases ('controls'). Volunteers will be asked to provide a small blood sample to help with this research.



Developmental origins of risk of type 2 diabetes: tolerance of fasting and IGF-1 levels

(July 2010) PROF. DAVID DUNGER

Prof. Dunger and his team are investigating whether IGF-1 (metabolism hormone) levels in the blood are linked to differences in insulin secretion and an individual's risk of type 2 diabetes. The study involves a period of fasting during an overnight stay at the Wellcome Trust Clinical Research Facility at Addenbrooke's Hospital.



GANDALF study: Genetic variation and altered leucocyte function in health and disease

(February 2010) PROF. KEN SMITH

Prof. Ken Smith's team initially enlisted 35 volunteers from the CBR to investigate how genetic differences between individuals affect the way their white blood cells respond under a number of conditions. Prof. Smith's team have now moved onto the next phase of their research, which involves recruitment of more volunteers from the CBR and they are also calling back some of the original volunteers to donate second samples.



Cardiosome project: genes and mechanisms in cardiovascular disease

(February 2008) DR WILLEM OUWEHAND

Dr Ouwehand and his team are continuing their research to identify the genes and mechanisms that contribute to the risk of heart attack, which is the leading cause of death in Western societies. The study involves donating one or more blood samples. 475 volunteers have already taken part in this study.



Genes and mechanisms in type 1 diabetes

(December 2007) PROF. JOHN TODD

CBR volunteers continue to help Prof. Todd's team with their type 1 diabetes research. Of particular interest to the team is how genetic variation can affect the way our immune system behaves. Many of the researchers in the team are interested in studying 'paired' subjects, where blood is collected on the same day from two or more volunteers with different genotypes but who are of the same age and gender.



RESEARCH PUBLICATIONS

A full list of publications and details of all studies that have involved the CBR can be found on our website:

www.cambridgebioresource.org.uk



(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. I recently received a letter inviting me to a study based on my 'genotype'. What is a genotype?

A. The word 'genotype' refers to the genetic make-up of an individual and is used to describe genetic differences between individuals. Researchers using the CBR are interested in studying variations of either a single gene or small groups of genes. There are many variations of all our genes, and these differences in genotype result in differences between individuals such as hair and eye colour or height. Our genotype can also influence our risk of disease. Our researchers are interested in looking at variations in genotype in healthy volunteers in order to find out more about the function of genes implicated in common disease.

How does the Cambridge BioResource work?

VOLUNTEER RECRUITMENT

You join the CBR by providing a blood or saliva sample and completing the study paperwork.

SAMPLE PROCESSING

DNA is isolated from your sample. If you provide a blood sample we separate and store the plasma and serum components. All of your samples are labelled only with an anonymous ID number.

SELECTION FOR STUDIES

To determine your eligibility for studies, the sections of your DNA that are of interest to our researchers are genotyped and volunteers with genotypes of interest are invited to participate. Your genotype data is treated anonymously and stored separately to any personal information that could identify you. Other information derived from your questionnaire and from your plasma and sera samples may also determine your eligibility for studies.

INVITATION TO STUDIES

If you meet the selection criteria for a study you will be contacted to ask if you would like to participate. If you agree, the research team will be in touch to make further arrangements. If you decide not to take part this will not affect your status in the volunteer panel and we will still send you invitations for any other studies that you become eligible for in the future.

PARTICIPATION IN STUDIES

Several studies are currently collaborating with the CBR and participation could involve anything from providing a small blood sample to visiting Addenbrooke's Hospital for an overnight stay.

DATA ANALYSIS

The results obtained through your participation in a study are stored using your anonymous ID number. On completion of the study, results are analysed by the research team. Our understanding of common diseases has progressed greatly in recent years; disease causation involves many interacting factors (genetic and environmental) and to understand a disease completely we must understand all of these fully. CBR research studies are helping to further our understanding of gene function which will have a very important role in helping to develop new interventions and treatments of common human diseases in the future.

RESEARCH PUBLICATIONS

This is the method that scientists use to share their findings with the worldwide scientific research community. This helps to stimulate other connected areas of research and further our collective understanding. The regular submission of papers for publication as a result of the participation of CBR volunteers is also vital in order to secure funding for future research.

CLINICAL TRIALS/PREVENTATIVE TREATMENTS

In the long term, our research will hopefully offer a path towards clinical trials and the investigation of new treatments for common diseases.

IMPROVING HEALTH

Our ultimate goal is to reach a point where we understand these diseases sufficiently to be able to intervene and treat them when they occur, or to prevent them from developing altogether in future generations.

News

Summer recruitment events

2010 has been a busy year for the CBR. We are recruiting for several new studies and over 500 new volunteers have joined the CBR since this time last year.

As the CBR continues to expand it becomes an increasingly useful resource for local researchers so it is essential that we regularly find new volunteers to join the panel. This summer we have visited a number of companies and have presented information displays and recruitment stands at a variety of events and venues. We are always looking for new places to visit and would welcome any feedback or suggestions from CBR volunteers.

£450 RAISED FOR CHARITY!

We would like to give a big thanks to Peters Elsworthy & Moore Chartered Accountants in Cambridge. 45 members of their staff joined the CBR in August this year and very kindly donated the recruitment vouchers they received upon joining to the charity EACH (East Anglia's Children's Hospices). EACH is a local charity that offers support to children with life-threatening conditions, and their families.

Open Information Evening

The first Cambridge BioResource Open Information Evening was held on Thursday 10th December 2009. Close to 100 volunteers attended an evening of talks from researchers who have collaborated with the Cambridge BioResource.

The speakers for the evening included Professor John Todd who discussed his research into Type 1 diabetes, Dr Willem Ouwehand whose research focuses on cardiovascular disease, and Dr David Savage who is investigating weight gain and metabolism.

Guests were also given the opportunity to join the team for refreshments and discuss any issues of interest to them in more detail. Everyone felt the event was a huge success and we hope to hold similar Open Evenings in the future.

CBR on BBC Radio Cambridgeshire

On the 19th July the CBR Coordinator Sarah Nutland was interviewed on BBC Radio Cambridgeshire by presenter Jeremy Sallis, together with one of our volunteers. The show offered a great opportunity to discuss our research and publicise the CBR throughout Cambridgeshire.

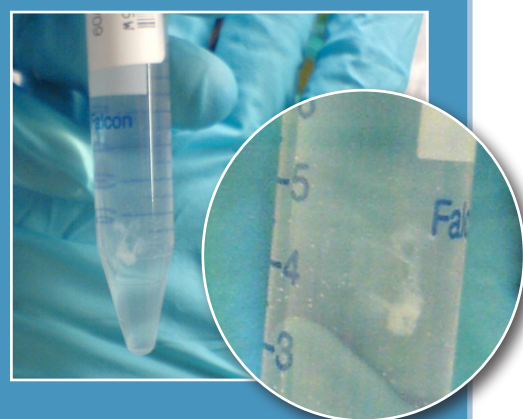
WE NEED YOUR HELP

Before the Cambridge BioResource starts recruiting for a new project, the study must first gain approval from the CBR Scientific Advisory Board (SAB). As well as the input of board members, we feel it is important to consider every potential study from the perspective of the volunteers. Over the coming months you may be contacted by a member of the CBR team and offered the opportunity to consider a prospective study and offer your feedback. If we contact you, please feel free to let us know if this is not something you are interested in.

Did you know?

It takes approximately two weeks to isolate DNA from the initial sample you provided when you joined the CBR.

DNA is visible to the naked eye as a white cloud after it has been isolated.



The age range for volunteers on the panel spans 70 years, with the oldest volunteer 86 years of age and the youngest 16 years old.

The most frequently occurring names of volunteers on the CBR panel are Helen and John.

Research Nurses have collected over 40 litres of blood for the Type 1 diabetes study since it commenced in December 2007.

Modern technology and the use of robots in the laboratory allows us to genotype large numbers of volunteers simultaneously.



The Cambridge BioResource

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