

Genetic Regulation of platelet [GPVI dimer] levels in healthy individuals.



Pictured (left to right): Harriet McKinney, Joana Batista, Carly Kempster and Patrick Thomas from the research team.

Cambridge BioResource volunteers — *like yourselves!* — are currently supporting Prof Willem Ouwehand's research team with a study looking at levels of different components of blood, particularly blood platelets. The aim of the study is to determine the link between differences in the DNA code and the volume, number and function of blood platelets. Having platelet values that are outside (or at the edges of) the normal (clinical) range is generally not related with disease, but in some instances it may be associated with an increased tendency of the blood to clot, e.g. in the

case of very high platelet counts. This is important because platelets are implicated in common diseases such as heart attacks and stroke. This study will provide a better understanding of how platelets work.

We are inviting volunteers within the BioResource to participate in this study, based on variations in their genetic makeup. This information is taken from the blood sample you donated when you first joined our volunteer panel. We are focussing on the specific genetic variants that current research believes are involved in platelet function and regulation.

This study will be continuing over the coming months and throughout much of 2018. If you receive an invitation letter and decide to take part, you will be asked to sign a consent form and to donate a blood sample of (approximately) 50 millilitres for research tests. These samples will be taken by one of our experienced research nurses in our clinical research facility at Addenbrooke's Hospital.

Please note: Not everyone will receive an invitation to this study — invitations are sent to volunteers who have the genetic variations the researchers need for their study! — but if you receive an invitation, please contact us if you are interested in taking part.

Sign up to our Facebook page today...

 The-NIHR-Cambridge-BioResource www.cambridgebioresource.org.uk

Transforming the NIHR BioResource—Research Tissue Bank (RTB)

Over the past twelve years, the BioResource has continued to grow, both in the number of volunteers on the panel and the number of studies that volunteers, like you, have supported. The singular aim we all have worked towards is furthering understanding of diseases to improve patient care.



However, in order to build on that success, we needed to modernise the way the BioResource ran. This meant an overhaul of our ethics and governance framework and transforming the BioResource into a Research Tissue Bank (RTB). An RTB is “a collection of human tissue or other biological material, which is stored for potential research use beyond the life of a specific project with ethical approval or for which ethical approval is pending,” (www.hra.nhs.uk, REC SOPs—Version 7.2 January 2017).

The addition of the RTB means that first sample you provided to join the BioResource can be used to help researchers who don't need fresh samples to conduct their study. It also means that volunteers who can only donate limited amounts of blood (and so, are unable to take part in studies asking for fresh samples) or are too busy to take up a study invitation are still able to help with lots of other studies by making that first sample available to researchers.

During the summer the Cambridge BioResource got in touch with all volunteers to re-consent them onto the volunteer panel.

Open Evening Update

Our next volunteer Open Evening will take place on the evening of the 30th November, 2017, at the Cancer Research UK Cambridge Institute, Li Ka Shing Centre.

Ticket booking will be open **from** 12 noon on the 13th November **until** 12 noon on the 24th November via <https://cbropeneveningnov2017.eventbrite.co.uk>.

Tickets will not be available before this time. These events are generally well subscribed and tickets are limited. Therefore, tickets will be allocated on a first come, first serve basis.



Pictured: Andrew Dymond and Jaimie Taylor at the BRC Open Evening

Cambridge BioResource Advisory Panel Update

The BioResource Advisory panel was set up to gain direct input from volunteers to inform some of the operational aspects of the BioResource and review of various paper documents. Recently, the Advisory panel met in June and September 2017. A few of the panel members have also attended events, like the Cambridge Science Festival and University Freshers' Fairs, where we have tried to increase the awareness and interest in the BioResource.

One of the panel's members, Alison Howat, has written about her experience of assisting at the NIHR Biomedical Research Centre Open Evening and of her experience as a volunteer on the panel (www.cambridgebioresource.group.cam.ac.uk/news).

Study Updates: Thank you for your continued support!

The BioResource project would not succeed without the support of our volunteers. You, the volunteers, are an invaluable resource for the progress of medical research and we highly appreciate of your time and commitment. Here is a summary from a recently completed study, and an update on the flu vaccine study mentioned in our last issue:

‘PBMC Bank study’

Led by **Professor Linda Wicker**

Our research team sends a heart-felt thanks to over 500 volunteers who donated blood samples to our studies, investigating the effects of genes known to contribute to the development and experience of the autoimmune disease Type 1 diabetes (T1D).

The incidence of T1D is increasing at an alarming rate, especially in children. Most of the genes that contribute to T1D susceptibility influence the function of cells that mediate the immune system, and many of the affected cell types are found in blood.

We studied the expression of T1D genes in specific cell groups in the donated blood samples, particularly T-cells, which are a type of white blood cell (responsible for immunity). We were able to demonstrate that common gene variants known to increase the risk of developing diabetes cause measurable alterations in the functioning of a subset of T-cells and further gene expression. Specifically, the results of our analyses supported our hypothesis that treating patients with ultra-low doses of IL-2, (a protein that regulates the activities of white blood cells), increases the functionality of a subset of T cells.

‘The ALFNA Study’

Led by **Dr Michelle Linterman**

In the last article we informed you about ALFNA, a study looking at flu vaccine recovery in different age groups, where researchers found older people’s helper T-cells were not recovering so well and so were benefitting less from the flu vaccine. Helper T cells have an essential role in antibody production after vaccination.

“Thank you to those who participated in this research project, it would not be possible without your willingness to contribute.” - Dr Michelle Linterman

The next stage of our research is to understand why T cells do not respond as well as we age, and also to determine whether we can trigger them to respond better using different vaccine formulations. For us to answer these questions, we are initiating a new study with the Cambridge BioResource called **Helper T cells and Ageing** (HELPAGE). Here, we will invite volunteers back from the ALFNA study and compare two age groups (18-36 and 65-99, they will be required to donate another blood sample and complete a questionnaire. This will hopefully aid our understanding of how we may be able to improve the vaccine efficacy for our aging population.

NIHR BioResource Nursing Model Goes Global!

The award-winning 'Volunteer-Centric Model of Research Nursing' published by the NIHR BioResource nursing team was presented last month at the International Association of Clinical Research Nurses' (IACRN) 9th annual conference, held in Rhode Island, USA.

The focus for this year's conference was "Clinical Research Nursing: Incorporating Professional Scope and Standards to Advance the Coordination and Care of Research Participants".

NIHR BioResource Research Nurses Kelly Beer and Tracy Cook attended the conference to represent the BioResource team and present their model of research nursing. Their presentation described the 'Volunteer-Centric' model, which facilitates the recruitment and engagement of volunteers in a translational research setting. The conference provided an excellent opportunity to showcase the team's work and highlight the variety of research being undertaken at the Cambridge Biomedical Campus.



Pictured (left to right): Kelly Beer and Tracey Cook from the BioResource with IACRN President-Elect, Mary Jane Williams

NIHR BioResource Research Nurse Tracy Cook said, "It was a fantastic opportunity to be able to present work that we are passionate about here at NIHR BioResource, and to share this with the wider research nurse community. The conference was inspiring and it is exciting to be part of an international group of research nurses. It highlighted that although we work in different countries with different healthcare cultures, we share the same challenges and are striving for the same outcomes." Lead Nurse Kelly Beer added, "We were very proud to be able to tell the audience about the amazing commitment and support that our volunteers give to the NIHR BioResource. It was a great pleasure to represent the NIHR BioResource at this event."

The NIHR BioResource is keen to attract new volunteers of all ages to join. The larger the number of volunteers that join the better suited we are to support research.

As you can see from the chart, we are really keen to attract more volunteers that fall into the 16-45 and 76+ age categories, therefore please let your friends and family members know.

For more information, email

cbr@bioresource.nihr.ac.uk

or call **0800 090 1212**.

