Patient and Public Newsletter

Funded by: CANCER RESEARCH UK for Children & Young People; Blood cancer UK

VIVO BIOBANK NEWSLETTER - CHILDHOOD CANCER AWARENESS MONTH EDITION

Samples to Solutions: Powering Childhood Cancer Research

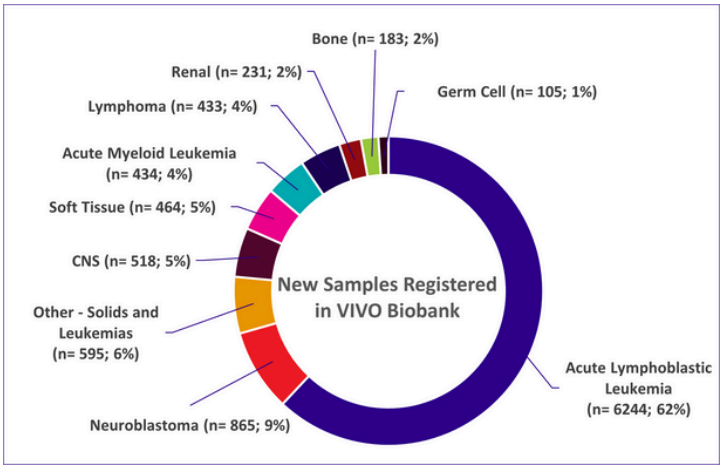
Welcome to our special edition newsletter for **Childhood Cancer Awareness Month**.
VIVO Biobank plays a vital role in supporting researchers by providing high-quality samples that enable ground-breaking discoveries in childhood cancer.

In this issue, we are proud to highlight how our samples have contributed to studies published in leading journals, share updates from recent conferences and new grant initiatives, and introduce the newest members of our team.

We are grateful to our participants, their families and the collaborating clinical teams and researchers, who make this mission possible. Together, we are building resources that make a real difference in advancing treatments and improving outcomes for children and families affected by cancer.

Inside this issue :

Biobank in numbers



Since **July 2022**, VIVO Biobank has registered over **10,000** new samples (excluding CCLG legacy collections). The majority are from acute lymphoblastic leukaemia (ALL), but we are now focusing on increasing the number of solid tumour samples to strengthen support for a wider range of research projects.

Impact Spotlight: Research Powered by VIVO Biobank

Childhood Leukaemia Research: Uncovering the "Cut-and-Run" Process

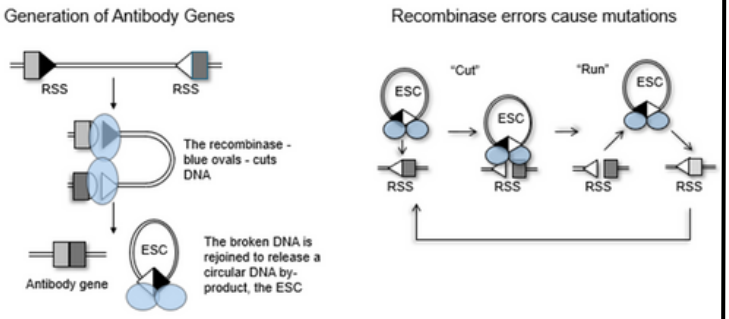
Dr Joan Boyes

VIVO Biobank recently supported research that uncovered a completely new mechanism behind childhood leukaemia relapse, published in Nature: [Excised DNA circles from V(D)J recombination promote relapsed leukaemia | Nature]

"Many thanks indeed for your support of this work. Without the VIVO Biobank samples, we simply would not have made these discoveries."

- Dr Joan Boyes

This study shows how leftover DNA from normal antibody production can combine with DNA-cutting enzymes to create breaks in important genes — a process the researchers call "cut-and-run." These breaks can trigger changes that lead to leukaemia or cause it to return after treatment.



"How 'cut-and-run' DNA damage happens in immune cells and can lead to leukaemia relapse."

Q&A: Understanding the "Cut-and-Run" Process

What is this research about?

Our immune system shuffles DNA inside immune cells to make antibodies, but mistakes can happen. Researchers discovered a new type of DNA damage called "cut-and-run," where leftover DNA teams up with DNA-cutting enzymes and moves to other parts of the genome, causing breaks linked to childhood leukaemia.

Why is it important?

Although most children with leukaemia are successfully treated, relapses are harder to cure. "Cut-and-run" may be a key reason why some leukaemias return, making this discovery crucial for improving outcomes.

What are the researchers doing?

Using samples from our biobank, scientists are comparing DNA from children's leukaemia samples at diagnosis and relapse. They are tracking how "cut-and-run" contributes to harmful mutations which could help identify which patients are at **higher risk of relapse.**

How could this help patients in the future?

Since "cut-and-run" relies on leftover DNA that isn't essential for normal immune function, it could potentially be targeted with new drugs. Blocking this process may prevent relapse and improve survival, reducing the need for aggressive treatments.

Understanding Aggressive T-Cell Leukaemia

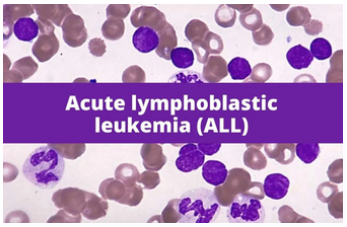
Dr Vincenzo Giambra

VIVO Biobank is supporting cutting-edge research into early precursor T-cell acute lymphoblastic leukaemia (ETP-ALL), a rare and aggressive blood cancer. This study, recently published in Blood: [NOTCH1 dimeric signaling is essential for T-cell leukemogenesis and leukemia maintenance - PubMed] , investigates how molecules that control gene activity called **epigenetic modifiers,** influence how ETP-ALL develops, survives treatment, and relapses.

Q&A: Exploring Drivers in ETP-ALL

What is this research about?

ETP-ALL starts in immature T-cells and is highly aggressive. The researchers are studying how mutations in epigenetic regulators, such as EZH2, drive leukaemia progression and resistance to therapy**.**



Q2: Why is this important?

ETP-ALL has one of the highest relapse rates among T-cell leukaemias, with up to 74% of patients experiencing a return of the disease. Relapse is often driven by leukaemia-initiating cells (LICs) that survive chemotherapy. Understanding the epigenetic changes that allow these cells to persist could help prevent relapse.

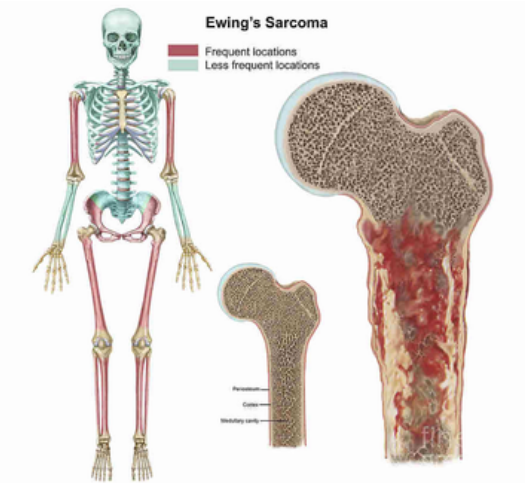
What are the researchers doing?

The team is using single-cell techniques to study how genetic mutations in epigenetic regulators affect cancer cell behavior. They are also testing drugs that target these epigenetic changes and exploring how the cell's internal clock and immune signaling pathways interact with these factors.

How could this help patients in the future?

Identifying epigenetic mutations that drive treatment resistance could allow clinicians to spot high-risk patients early. Targeted therapies blocking these drivers may make leukaemia cells more sensitive to treatment, offering new hope for children and adults with aggressive T-cell leukaemia.

General Biobank Updates



Legacy samples from a large-scale European clinical trial for Ewing sarcoma now available in our biobank

We are pleased to announce that VIVO Biobank has received legacy samples from the now closed **Euro Ewing's 2012 clinical trial.** These samples are now available for researchers to apply for. This provides a valuable resource for researchers investigating Ewing's sarcoma.

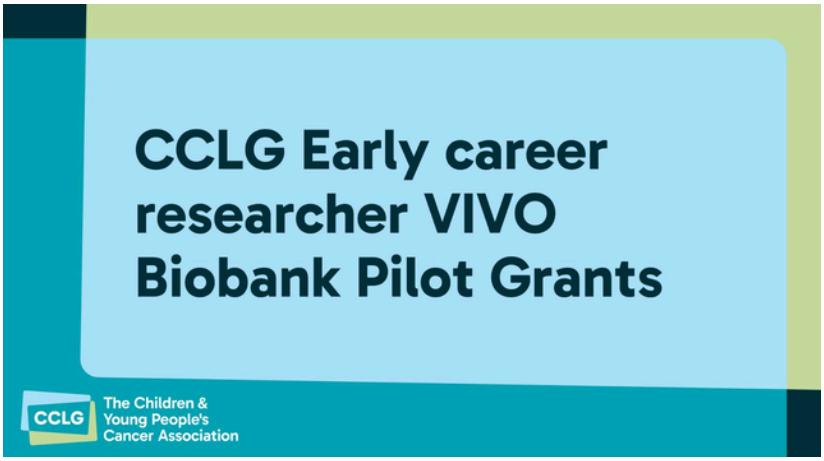
The collection includes around **1,270 PAXgene** tubes containing preserved whole blood and about **840 EDTA tubes** containing separated blood cell material. Having both types of samples is particularly valuable: PAXgene tubes allow researchers to study gene activity in blood, while EDTA tubes make it possible to examine different blood cell components.

Together, these samples give scientists a more complete picture of how Ewing's sarcoma develops and provide opportunities to explore new ideas for treatments.

CCLG Early Career Researcher VIVO Biobank Pilot Grants

We were delighted once again to partner with **CCLG** to deliver **VIVO Biobank Pilot Grants**, which provide early career researchers with the opportunity to carry out innovative pilot biological studies using samples from our biobank.

These grants (up to **£15,000** each) are designed to support short-term projects that generate preliminary data for larger applications, or lead to useful, publishable results.



This round brought in over **15 enquiries** from researchers, with exciting and ambitious ideas spanning a variety of tumour types, including neuroblastoma, osteosarcoma, and rhabdomyosarcoma.

The pilot grant panel will review these over the coming months, with funding decisions due in December 2025.

We look forward to announcing the successful projects in our next newsletter.

VIVO Biobank at the CCLG Conference 2025

In March, members of our team attended the Children's Cancer and Leukaemia Group (CCLG) Conference. This was a fantastic opportunity to connect with the childhood cancer research community.

Highlights from the conference:

- Hearing about the **latest progress** in childhood cancer research and treatment.
- Networking with **researchers, clinicians, and specialist nurses** who make biobanking possible.
- Raising awareness of the **importance of sample access** for breakthroughs.
- Exploring **new opportunities for collaboration**.

A huge thank you to CCLG for hosting such an inspiring event, and to everyone who stopped by our stall to learn more about our work (and maybe pick up some sweets along the way!).

Team and Community

New faces at VIVO Biobank!

In 2025, we've seen some changes in our team, as we said goodbye to a few familiar faces and welcomed new colleagues.

- **Taofik Adetoro**, our former Biobank Manager, moved on in September 2024 to take up an exciting role as a Trainee Clinical Scientist in the NHS
- **Emma Paizes** also left in September 2024 for a Trainee Clinical Scientist post in the NHS, but kindly joined us for the farewell tea.
- **Beth Cragg**, who combined her MRes studies in Edinburgh with part-time work for the biobank, officially finished with us at the end of August and is now heading off to travel before embarking on a new career.

We thank them for their dedication to VIVO Biobank and are excited to welcome three new staff members to continue their excellent work...

Beth's leaving do marked a smooth handover to welcome new colleagues into the team.

*Left to Right: Rachel Howarth, Robyn Watson (**Research Assistant**), Anne Thomson (**Biobank Manager**), Emma Paizes, Dona Saji, Eszter Tuboly, Deb Tweddle (**Director**) and Beth Cragg.*

- **Eszter Tuboly - Biobank Manager**

Eszter manages the **solid tumour side of the biobank**. She is working hard to open new TYA sites and encourage solid tumour banking, as well as keeping us on track with our bigger, long-term goals as a biobank.

- **Rachel Howarth - Research Assistant**

Rachel plays a key role within the biobank, co-ordinating the **Sample Data and Access Committee (SDAC)** applications from initial requires through to sending out samples to the researchers. This includes liaising with PPIE members who play a key role in reviewing applications we receive.

- **Dona Saji - Research Assistant**

Dona leads our **Patient and Public Involvement and Engagement (PPIE) group,** working closely with its members to exchange ideas and liaise with researchers. She also manages our social media and publicity, ensuring we raise awareness of the importance of biobanking, and highlight important research supported by our bank.

Patient and public involvement

One of the most important parts of the VIVO Biobank is the input of patients and the public. Their perspectives ensure that everything we do truly serves the community we are here to support.

We are proud to have **15 active PPIE members**, who bring their experiences and expertise to help shape our work. They play a vital role in a range of our committees and join us at quarterly meetings. Their contributions help us:

- Communicate research in clear and meaningful ways.
- Understand the challenges patients and families face.
- Make sure our biobank is accessible and responsive to the community.

*Our PPIE members are **invaluable partners-** helping us engage effectively, overcome barriers, and ensure that the patient and family voice is at the heart of biobank decisions.*

👉 If you would like to find out more or are interested in joining our PPIE committee, please visit the PPI page on our website: **https://vivobiobank.org/ppi** for more information and contact details. Everyone is welcome to apply.

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Follow us to see how our samples are powering research and making real-world impact.