DECEMBER 2023 | WWW.BCCHBIOBANK.CA

BCCHB NEWSLETTER

OFFICIAL UPDATES FROM THE BC CHILDREN'S HOSPITAL BIOBANK

What's inside this issue:

WE CURRENTLY COLLECT:

BLOOD
BONE MARROW
TISSUE
SALIVA
STEM CELLS
URINE
PLACENTA
CEREBROSPINAL FLUID
CORD BLOOD

HAPPY HOLIDAYS FROM THE BCCH BIOBANK!

Wishing you a wonderful and safe holiday season. Thank you for your ongoing support of the BioBank and involvement in research!

BC CHILDREN'S HOSPITAL BioBank

SAMPLE RELEASE: HOW BIOBANKED SAMPLES ARE SUPPORTING RESEARCH

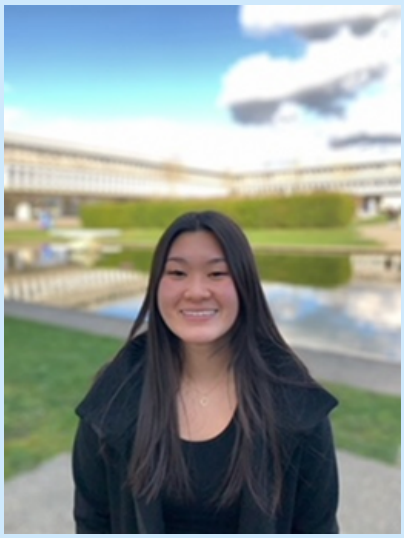
Dr. Crystal Karakochuk was granted 23 full-term pregnancy cord blood plasma samples, 23 pre-term pregnancy cord blood plasma samples, and 16 control plasma (blood) samples from patients at BC Women's hospital for her study Iron status of young children.

Study summary: In Dr. Karakochuk's previous research, it was found that out of the 60 pregnant women participating in the study, 80% were likely to be iron deficient in late stage pregnancy. Iron deficiency during pregnancy has been associated with impacted neonatal growth and neurocognitive development. To assess the impacts of iron deficiency in newborns, Dr. Karakochuk's study hopes to measure the iron levels in plasma samples of young children (<1 years of age). In addition to children, this study will also use plasma samples collected from the umbilical cord blood of women, as a proxy of newborn iron blood status.

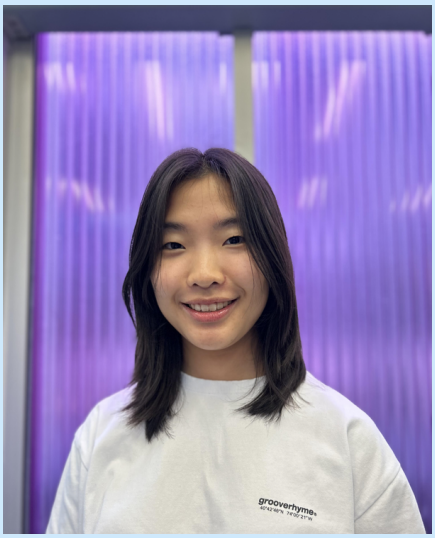
BCCHB has released 14 fresh tonsils and 10 isolated white blood cell samples to Amgen for their study Development of a human multi-cellular engineered living culture system.

Study summary: One of the biggest challenges in drug development is predicting what proteins will prompt an immune response and what the immune response will be. The existing tools used across the industry often fall short of accurately predicting these issues. Researchers at Amgen BC are using human tonsil tissue to create a model that mimics the human immune function.

HELP US WELCOME OUR NEW STAFF!



Sue Kang is a new co-op student at the BioBank in the role of a Research Assistant! She is currently in her fourth year at Simon Fraser University majoring in Biomedical Physiology. She has a lot of interest and curiosity in medical research and is excited to see the different studies that take place here at BC Children's and Women's Hospital. She hopes to join the medical field in the future and is eager to work in a hospital and enhance her knowledge and experience. Sue is extremely excited to be a part of the BioBank team and is looking forward to all the other projects she will be a part of!



Seoyoung Chae is also a new co-op student at BioBank! She is a fourth-year undergraduate student at UBC majoring in Behavioural Neuroscience. Seoyoung has previously worked with patients and families in her volunteer roles at the UBC Hospital and the Vancouver Downtown Eastside Women's Clinic. As a Co-op student, Seoyoung will help with processing samples and consenting pediatric patients. Every day is full of excitement for Seoyoung at BioBank as she gets to practice her laboratory skills and learn about the diverse research projects within the BioBank!

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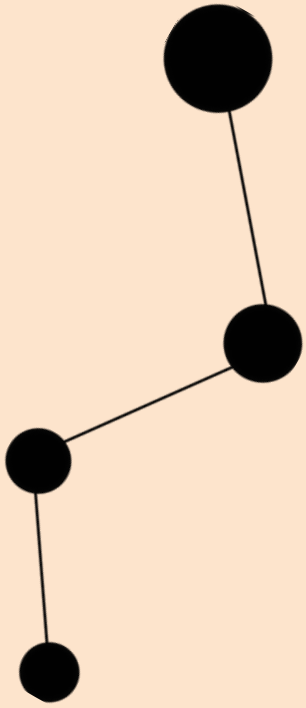
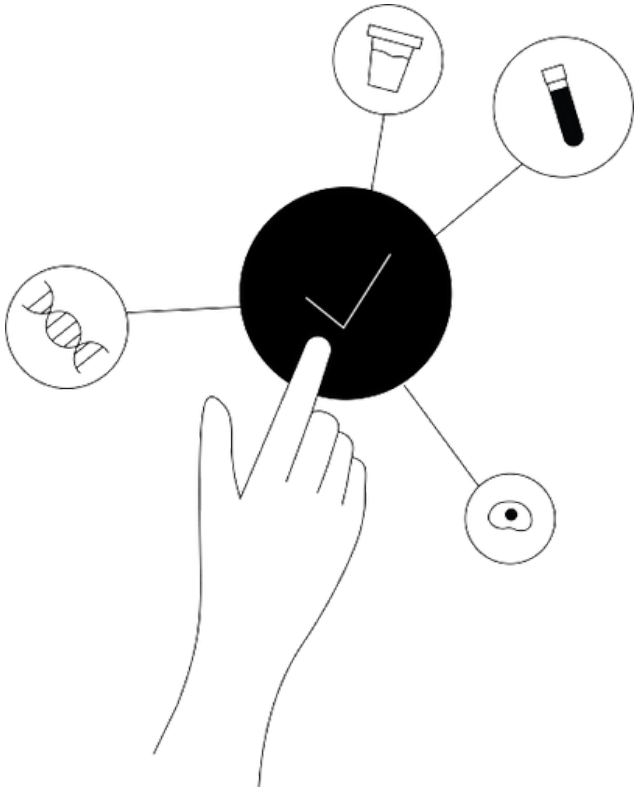
CELL IMMORTALIZATION – A NEW CONSENT FORM!

The BCCHB has begun seeking patient permission to distribute patient samples to researchers who would like to immortalize cells. At this time, we are only asking for consent to immortalize bone marrow and solid tissue tumour samples at this time from oncology patients.



All cells in the body have a limited lifespan; however, scientists manipulate a cell's DNA to prevent cell death. Normally, some parts of a cell's DNA tells the cell to die after a while but instead, these parts can be altered, allowing the cells to live on indefinitely. This gives researchers greater access to cells, which allows them to test drugs to develop new treatments without having to collect new samples each time. Examples of this could be treating a bone cancer sample with a wide number of drugs to study the biology and genetics changes in the tumor and to find which drug works well in killing the cancer cells. The more cells there are, the more studies can be done on the same sample, such as the number of drugs that can be tested.

If you are an oncology patient and an existing BioBank participant who would like to allow your samples to be distributed to researchers that immortalize cells, please contact the BioBank at biobank@cw.bc.ca



CLINICAL TRIALS SUPPORT

In collaboration with the C&W lab and the Clinical Research Support Unit (CRSU), the BioBank is supporting the start-up of more clinical trials at BC Children's Hospital in recent months. Clinical trials are important in the testing and evaluation of new treatments. Outcomes of clinical trials directly improve and impact patient care, and allow researchers to move one step closer to finding better treatment options for patients. Most recently, the BioBank has worked on clinical trials from the Departments of Neurology and Mental Health. Our skilled BioBank technicians help set up these studies on the C&W campus, process the samples needed for testing, and store and ship samples to other sites as needed. The BioBank hopes to continue to support more clinical trials in the near future as a means to enable more research and accelerate improvements to patient care!

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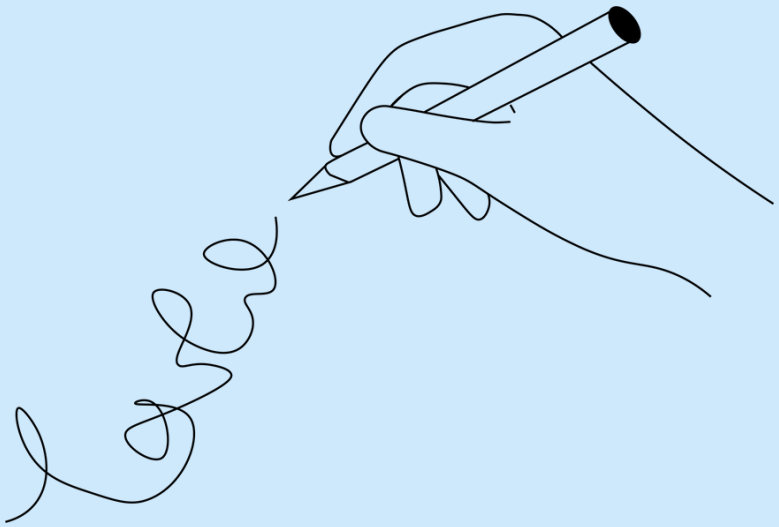

NEW SURVEY ALERT: E-CONSENT VS PAPER

As part of Jasleen Grewal's summer studentship project, the BioBank is collecting data on participant's preferences of whether they would like to consent to the BioBank using the traditional method of a paper consent form, or complete an electronic consent (e-consent) form on an iPad. Their choice, along with the reasoning and experience behind their selection, will help shape our future consent processes. We will be sure to share survey results when we reach our goal of 100 survey participants!

NEUSTEIN AWARD

BCCHB Co-Director Dr. Jonathan Bush supervised Mr. Simon Zhu who presented their work at the Society for Pediatric Pathology Fall Meeting on using a chicken egg as a method to grow human tumor samples. Their work is building on a BCCHB collaboration with Dr. James Lim at the BCCHRI to create patient derived tumor xenografts in a cost efficient and ethically appropriate model system compared to the traditional mouse method. Simon was presenting amongst an experienced group, including staff pathologists, clinical fellows, and residents. Despite this impressive collection of speakers, Simon was awarded the Neustein Award, which recognized this work and presentation as demonstrating innovative technological advances in pediatric pathology. The BCCHB is looking forward to exploring future opportunities to deploy this technology to facilitate personalized care and support researchers.

Simon Zhu presenting his work at the Society for Pediatric Pathology Fall Meeting in Portland, Oregon (October 2023).

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PATHOLOGY & LAB MEDICINE
PATIENT-FAMILY ADVISORY COMMITTEE

It has been a year since we had our first Pathology and Lab Medicine Patient-Family Advisory Committee meeting. It has been a pleasure working with our patient-family partners and we're grateful for being able to turn to them as our community when it comes to improving patient-centered care. Thank you for sharing your lived experiences with us and helping us improve overall patient experiences in our hospitals.

Here is an overview of all that we have accomplished so far:

- Discussed and revised the BioBank Immortalization of Cells Consent Form
- Edited our BioBank newsletters to include lay terminology
- Gave feedback on patient-facing brochures for biobanking (Children's, Maternal, & Women's)
- Discussed ideas for our upcoming video regarding bloodwork in the Outpatient Lab and how we can make pediatric patients more ready and comfortable for upcoming blood draws

We are in the process of reconfirming membership and possibly recruiting more patient-family partners in the future, so BioBank participants will get an email with more info soon! They can also send us an email at biobank@cw.bc.ca if they are interested in learning more about our Patient-Family Advisory Committee.

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