

2023–2024 Corporate presentation



Harleena, Goodness and Greatness
BLOOD DRIVE ORGANIZATION COMMITTEE



The blood and biological products of human origin system in Québec

Health
Canada

Donors

Ministère
de la Santé
et des
Services
sociaux



Hospitals

Biovigilance
Committee

Recipients

Mission

To efficiently meet the needs of the Québec population for quality blood and other biological products of human origin.

Vision

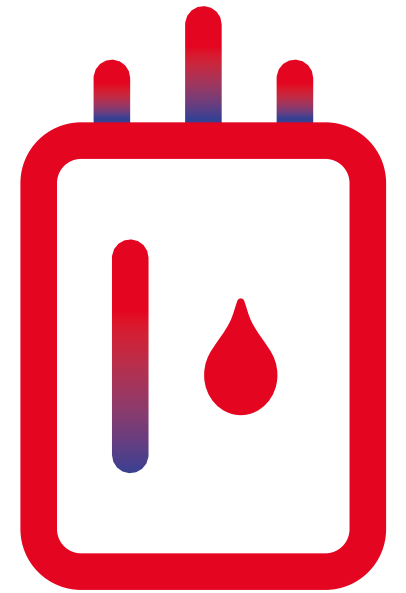
To become a strategic partner for the Québec health system.

A great team dedicated
to the gift of life.

Nicolas
BLOOD DONOR

Annie
EMPLOYEE

2023–2024
AT A GLANCE



Over
235,000

donors of blood, plasma, stem cells,
human tissues, and mother's milk

1,901

employees

Nearly
800,000

products distributed

\$557 MILLION

annual revenues

Thousands of volunteers, committed partners
and rigorous administrators, who are mobilized
for the cause of the gift of life.

From blood supplier to expert in biological products of human origin

1998

Start of Héma-Québec's operations as a supplier of blood products and medications manufactured from plasma

2001

Creation of the Human Tissue Bank
Opening of the first blood donation centre

2004

Creation of the Public Cord Blood Bank

2005

Operational start-up of the first mobile blood donation unit

2008

Creation of the Reference and Stem Cell Laboratory

2013

Extension of Héma-Québec's mandate for biological products of human origin
Opening of the first plasma donation centre

2014

Creation of the mobile blood drive regional centre
Héma-Québec assumes full management of the Stem Cell Donor Registry in Québec

2014

Creation of the Québec Public Mothers' Milk Bank

2018

Obtaining the mandate for the evolution of the information system on the traceability of blood products

2021

Obtaining the mandate to be the sole distributor of human tissues

2022

Implementation of gender-neutral qualification questionnaires for blood products





Marie-France
VOLUNTEER

Permanent presence throughout Québec



Donation centres

Brossard	● ● ●	Gatineau	● ● ●	Kirkland	● ● ●
Laval	● ● ●	Lebourgneuf	● ● ●	Montréal	● ● ●
Saguenay	● ● ●	Saint-Bruno	● ● ●	Sainte-Foy	● ● ●
Sherbrooke	● ● ●	Trois-Rivières	● ● ●		

Facilities

Montréal	Québec
----------	--------

Mobile blood drive regional centre

Brossard

In addition to a mobile unit and thousands of mobile blood drives across the province!

- Blood donation
- Plasma donation
- Platelets donation
- Mother's milk drop-off point

Sectors of activity



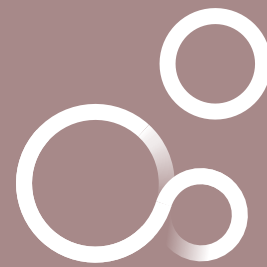
Blood products

Blood is the fluid that flows through the body's veins and arteries. It is made up of plasma, in which three types of cells are suspended: red blood cells, white blood cells, and platelets.



Stable products

Stable products are medications that are manufactured primarily from plasma. Plasma is the liquid part of blood that transports blood cells and nutrients in the body.



Stem cells

Stem cells are the "parent" cells from which all the other blood cells develop. They are found in bone marrow, peripheral (circulating) blood, and umbilical cord blood.



Human tissues

Human tissues can be collected for transplanting purposes. This involves, for example, heart valves and ocular, cutaneous, arterial, and musculoskeletal tissues.



Mother's milk

Collected mother's milk is particularly beneficial for infants born extremely pre-term who cannot be breastfed by their mother. It reduces the risk of developing a serious intestinal disease.



Specialized laboratory services

Héma-Québec provides specialized analysis services to its partners in the Québec health system.

Blood products

THE ROLE OF HÉMA-QUÉBEC

As the exclusive supplier of blood products in Québec, Héma-Québec is responsible for recruiting donors and for collecting, testing, processing and delivering products to hospitals.

2023-2024 AT A GLANCE

175,339

registered donors
(all types of donations combined)

299,467

blood products delivered to hospitals

1,806

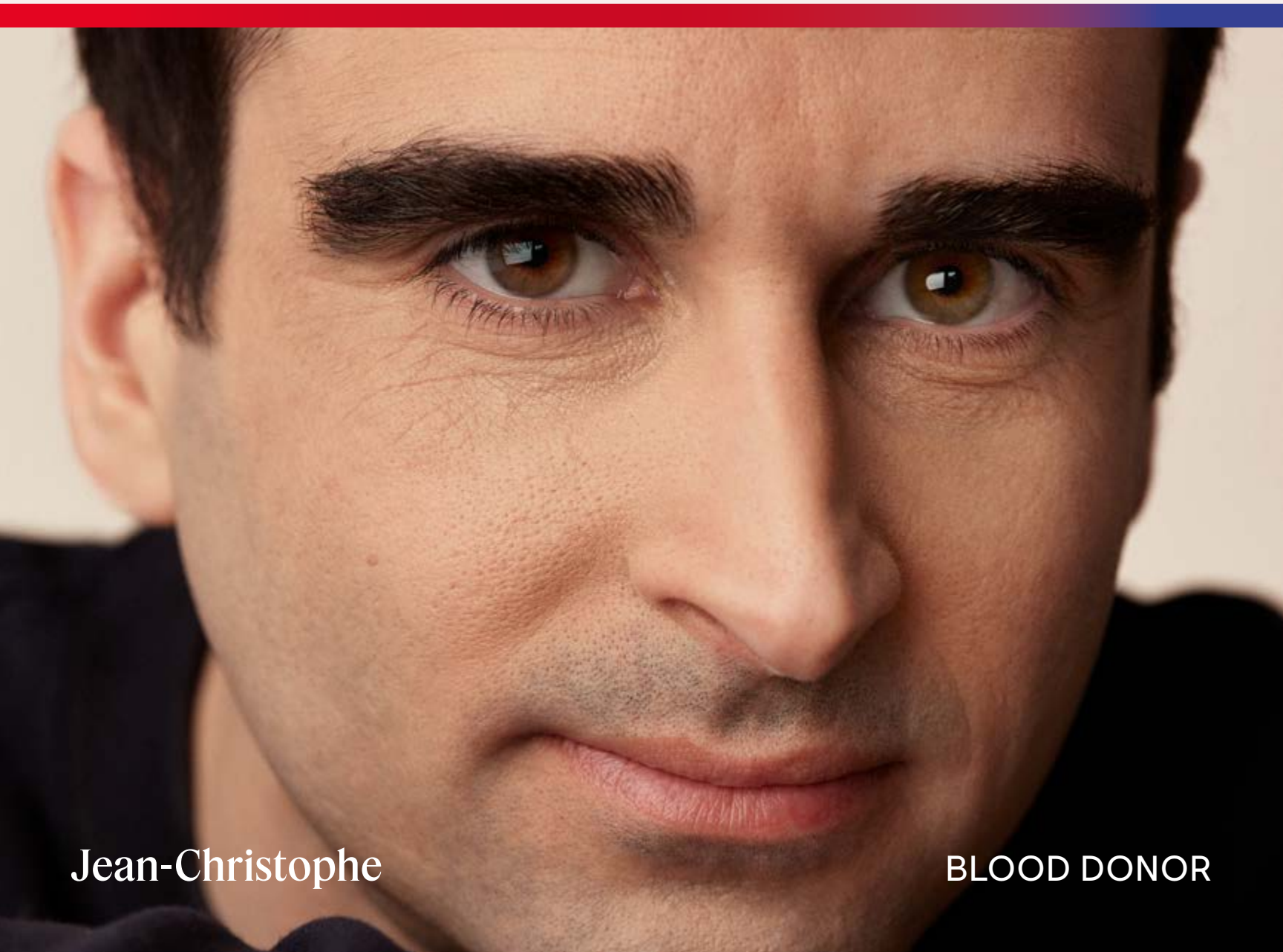
blood drives

412,402

visits to the collection sites
(all types of donations combined)

1.61

whole blood donations on
average per donor per year



Jean-Christophe

BLOOD DONOR



Blood products

Blood products

From donation to distribution



1. DONATION

The blood collection lasts about ten minutes. In addition to the blood bag, sample tubes are collected for testing.

2. TRANSPORTATION

The blood bags and samples are sent to one of Héma-Québec's laboratories.

3. ANALYSES

The samples are sent to the qualification lab to determine the donor's blood group and to screen for the presence of infections.

4. SEPARATION OF BLOOD

The blood is separated into its different components (red blood cells, platelets, plasma).

5. STORAGE

Compliant products are labelled and stored, ready to be sent to hospitals.

6. DELIVERY

The products are delivered to hospitals. The components used vary depending on patients' needs.

Every 80 seconds, someone in Québec needs blood.

It may be following an accident, during a surgery or to treat an illness. Only 3% of Québec's adult population gives blood.

Stable products

THE ROLE OF HÉMA-QUÉBEC

Héma-Québec is the exclusive distributor of stable products for Québec. It is responsible for supply strategies, purchase of medications manufactured primarily from plasma, inventory management and product distribution to hospitals. It also looks after donor recruitment, collection and testing, and sending a part of the plasma it collects for fractionation.

2023–2024 AT A GLANCE

26,963

registered plasma donors

453,367

stable products delivered

152,610

litres of plasma supplied for the manufacture of medications

27%

intravenous (IVig) and subcutaneous (SCig) immunoglobulin self-sufficiency rate



Rémi
PLASMA RECIPIENT

Annie
PLASMA DONOR



Stable products

Stable products

From donation to distribution



1. DONATION

Plasma donations are collected in donation centres by appointment. The collection lasts approximately 45 minutes. Plasma can be donated every six days, up to 52 times a year.

2. FREEZING

Plasma is quickly frozen after collection. The faster it is frozen, the more protein can be extracted from it.

3. ANALYSES

Samples are sent to the qualification laboratory. All donations are tested.

4. FRACTIONATION

Plasma is sent to fractionation plants. These high-tech plants extract the proteins and use them to manufacture medications.

5. RETURN OF PRODUCTS

The finished products are then returned to Héma-Québec and stored, ready for shipment to hospitals.

6. DELIVERY

The products are delivered to hospitals.

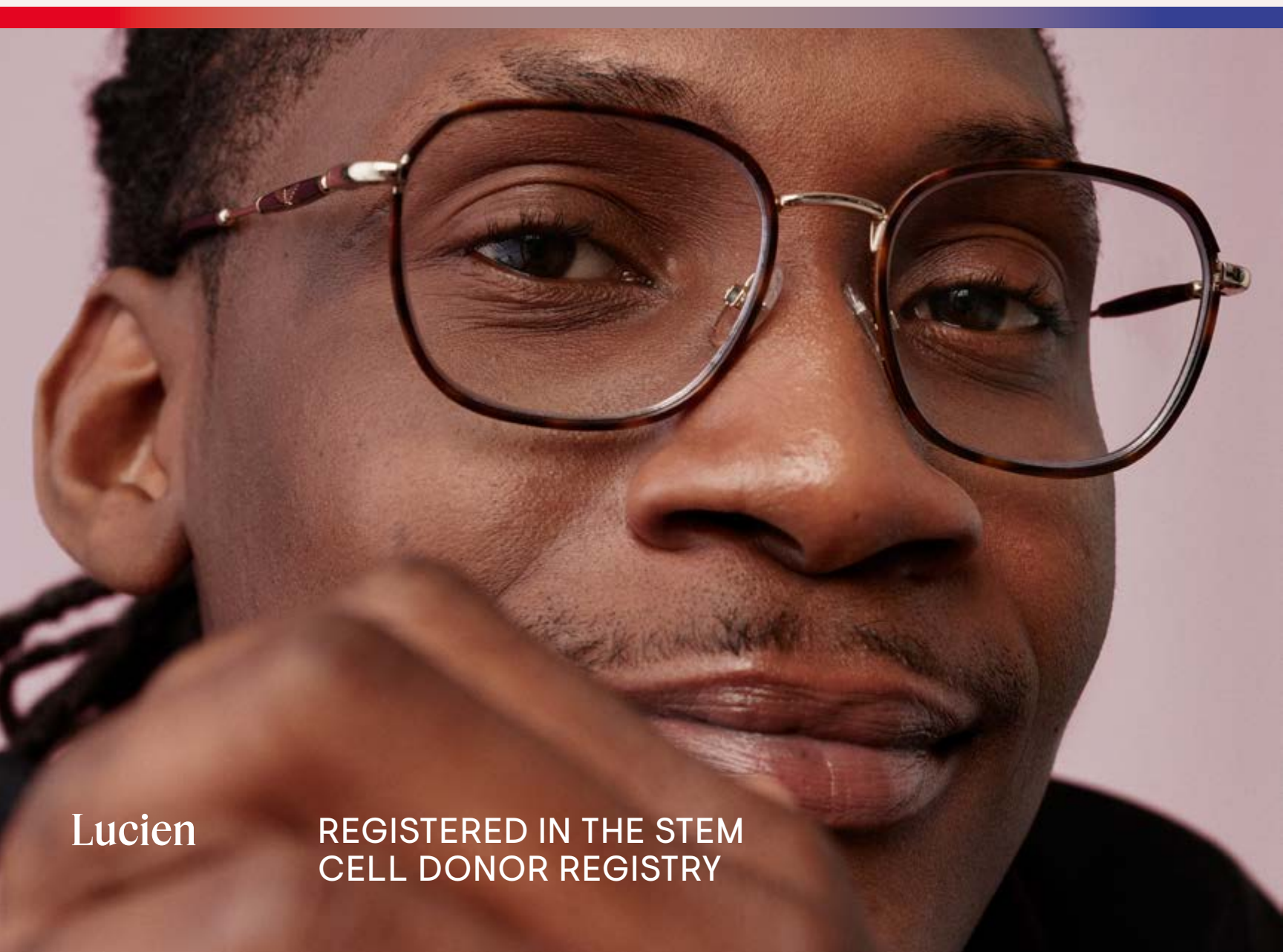
Thousands of people in Québec need plasma-derived medications.

They are used to treat various illnesses, including neurological disorders, immune deficiencies and other diseases, such as hemophilia. The drug manufacturing process can take up to 12 months.

Stem cells

STEM CELL DONOR REGISTRY

Héma-Québec is responsible for recruiting and qualifying donors, as well as managing the Stem Cell Donor Registry for Québec. This computerized registry contains the records of more than 55,000 enrolled individuals who are likely to consent to donating. Héma-Québec's Registry is certified as meeting the highest international standards and is part of the World Marrow Donor Association's (WMDA) global network, thus benefitting from access to more than 40 million potential stem cell donors.



Lucien

REGISTERED IN THE STEM
CELL DONOR REGISTRY

2023–2024 AT A GLANCE

55,680

enrolled individuals to the Registry

3,166

new registrations

135

patients in Québec received
an unrelated donor transplant

10

donors in Québec
donated stem cells

478

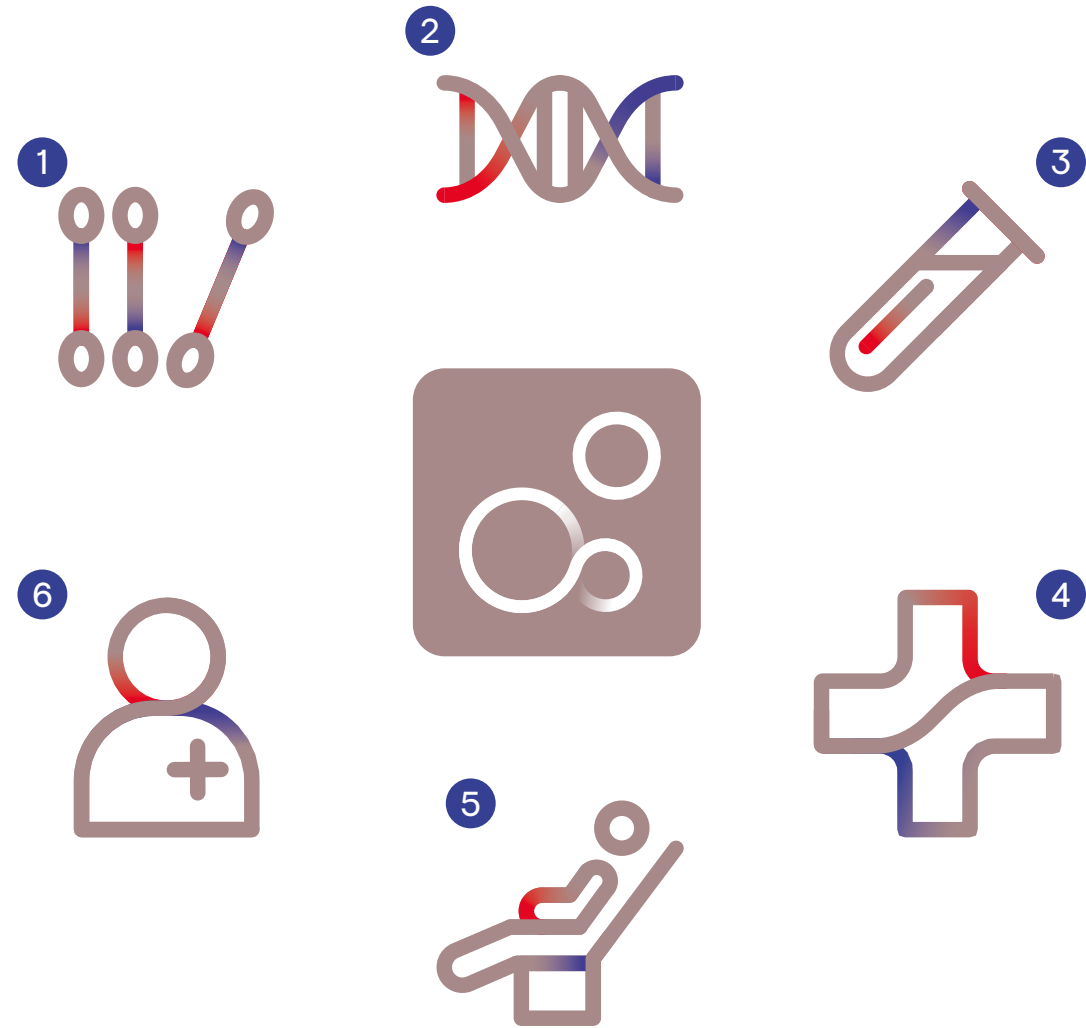
autologous peripheral stem cells
distributed to hospitals



Stem cells

Stem cells

From registration to donation



1. REGISTRATION

Any person who qualifies can enroll in the Registry.

2. DETERMINATION OF GENETIC PROFILE AND ADDITION TO THE REGISTRY

Samples returned to Héma-Québec are used to determine the genetic profile of the potential donor, who is then added to the international registry.

3. CONFIRMATION OF COMPATIBILITY

If a person is potentially compatible with a patient, Héma-Québec conducts advanced tests to confirm their genetic compatibility with the patient.

4. PREPARING FOR THE DONATION

The potential donor undergoes a general physical examination to confirm whether their health status allows them to donate.

5. STEM CELL DONATION

If all conditions are met, the donation can take place. Two types of donations are possible: bone marrow or peripheral stem cells.

6. POST-DONATION FOLLOW-UP

The donor is followed up until full recovery.

For some patients, stem cell transplants are the only chance of survival.

The treatment of last resort consists of replacing the patient's stem cells with those of a healthy person. For three out of four of them, there is no compatible donor in the family.

Cord blood

PUBLIC CORD BLOOD BANK

Umbilical cord blood is very rich in stem cells. The Public Cord Blood Bank (PCBB) provides access to a complementary source of stem cells, other than those from bone marrow or peripheral blood. Like Héma-Québec's registry of adult donors, the PCBB is an integral part of the international registry of the World Marrow Donor Association. It is the first operational public cord blood bank in Canada.

2023–2024 AT A GLANCE

2,582

mothers enrolled

12,170

units available for transplant

6

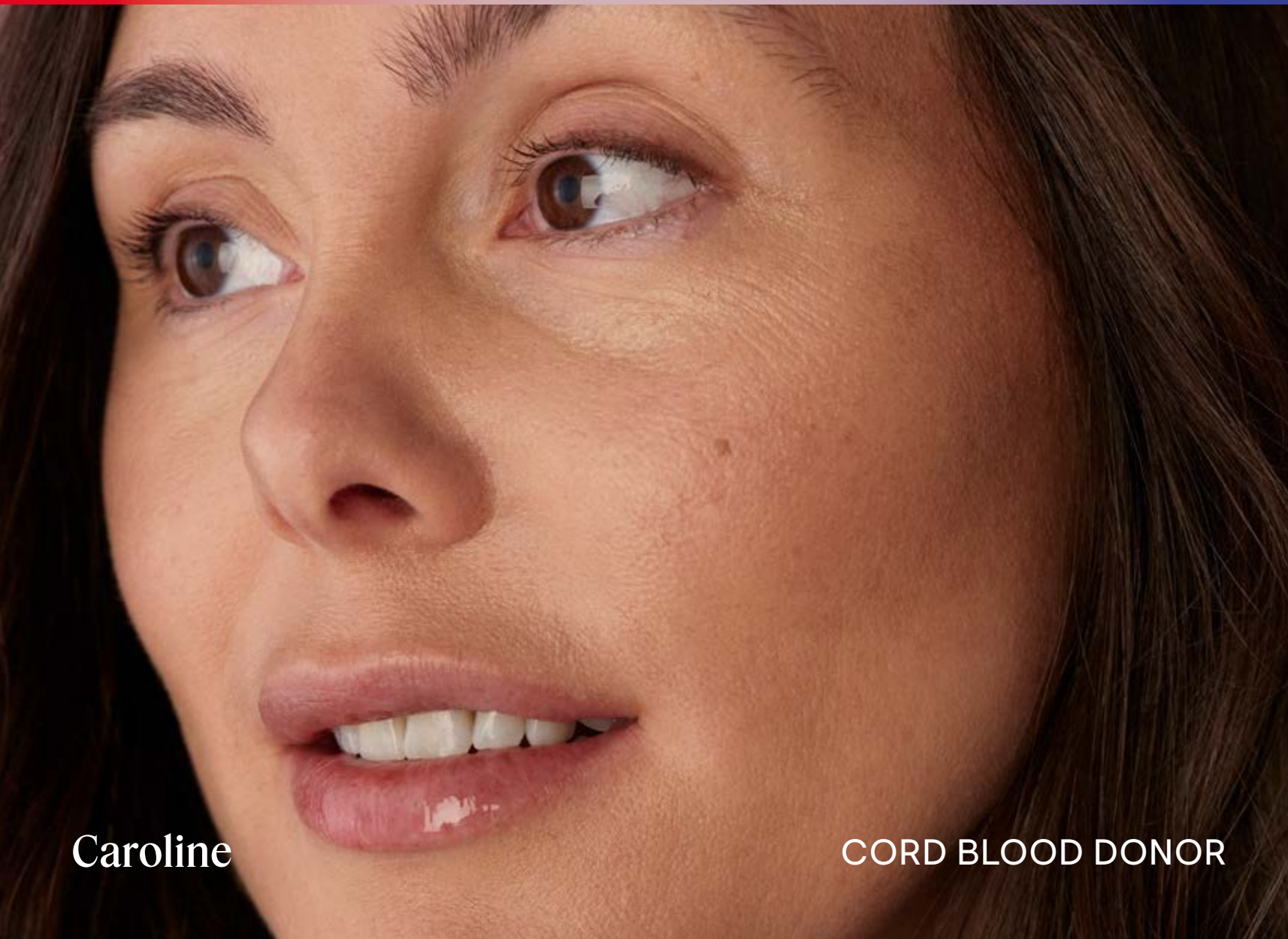
partner hospitals

16

units distributed worldwide
(including 6 in Québec)

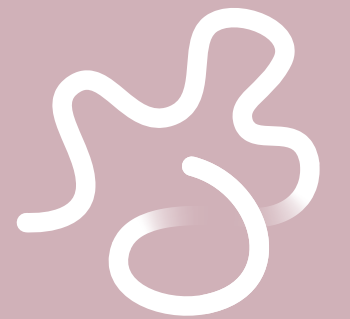
218

units distributed
worldwide since 2008



Caroline

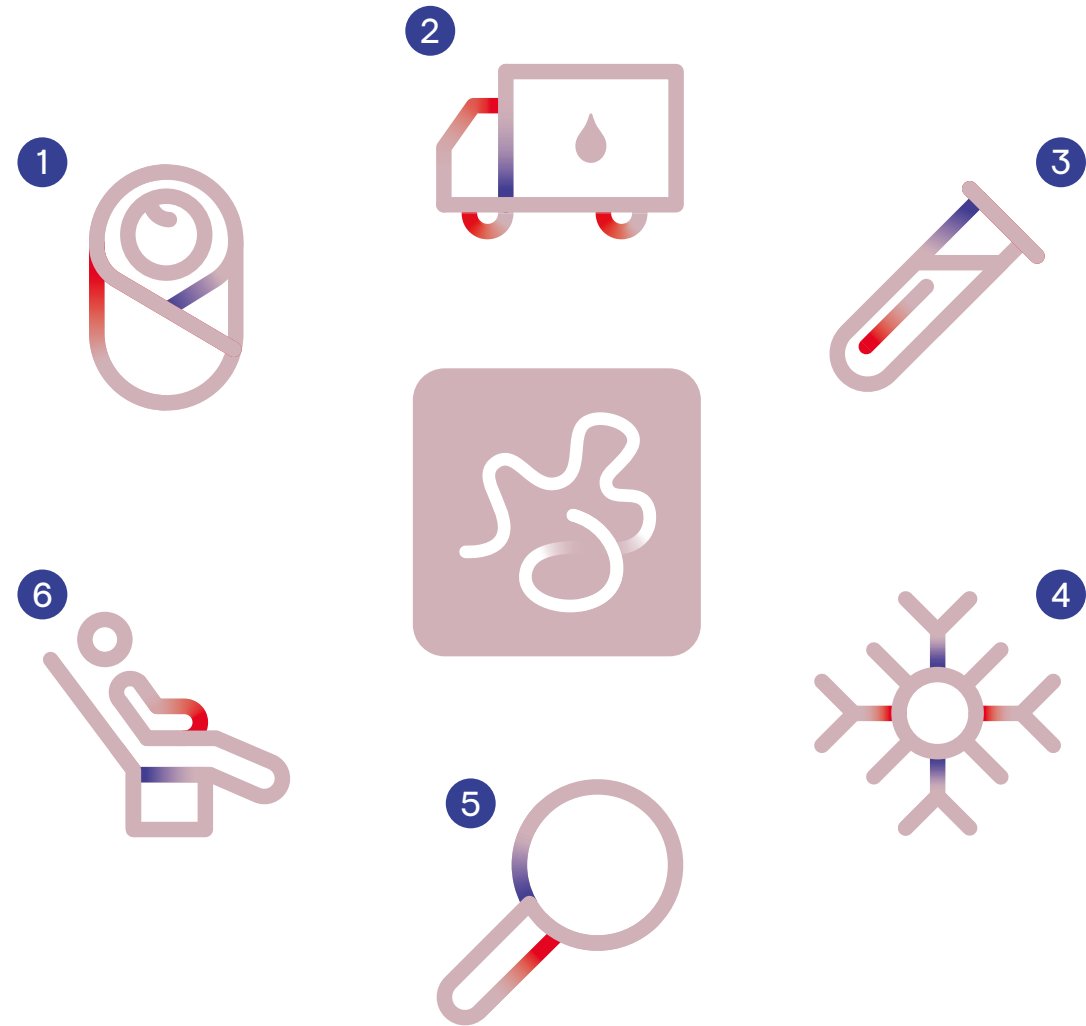
CORD BLOOD DONOR



Cord blood

Cord blood

From donation to transplantation



1. DONATION

Umbilical cord blood is collected after the birth of a baby in partner hospitals.

2. TRANSPORTATION

Cord is transported to Héma-Québec.

3. QUALIFICATION

Cord blood is qualified based on strict criteria.

4. PROCESSING AND STORAGE

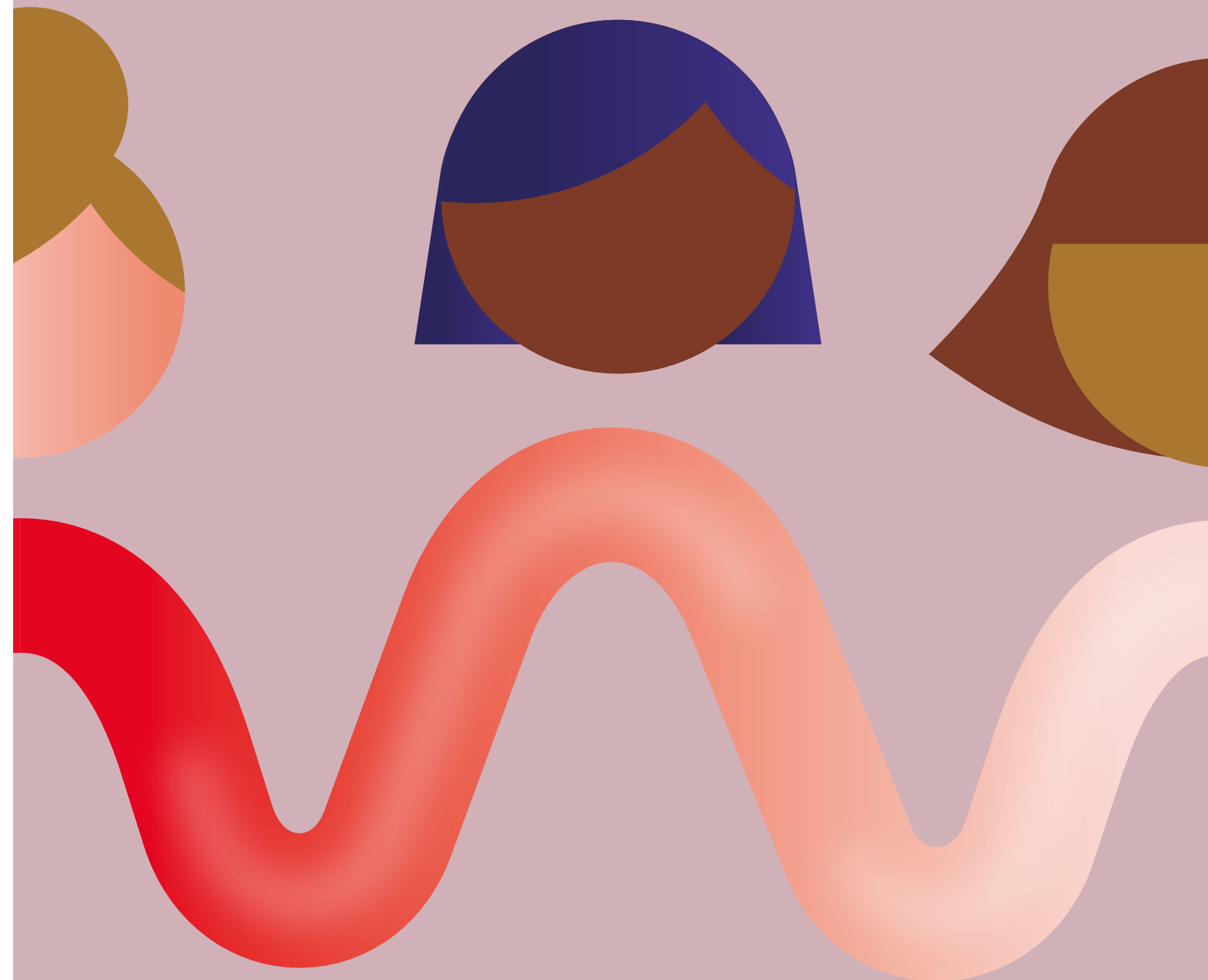
Cord blood is processed, frozen at -150°C and stored for 15 years. The units of cord blood are made available to an international registry.

5. SEARCH FOR COMPATIBLE UNITS

When a call is received within Québec or elsewhere in the world, Héma-Québec conducts a search for a unit that is compatible with a patient awaiting a stem cell transplant.

6. TRANSPLANTATION

The patient is transplanted.



Cord blood is rich in stem cells that are particularly valuable in the treatment of over 80 diseases.

While Héma-Québec is responsible for donor registration and qualification, the collection itself is done in partner hospitals. Upon receipt of the collected cord blood, Héma-Québec processes, analyzes and cryopreserves, or banks the cord blood units.

Human tissues

THE ROLE OF HÉMA-QUÉBEC

Héma-Québec manages the Public Human Tissue Bank for Québec. It is responsible for collecting, processing, qualifying and distributing human tissues to meet hospital needs. One of the team's missions is to raise awareness among healthcare professionals of the importance of identifying and referring potential donors following their death.

2023–2024 AT A GLANCE

5,780

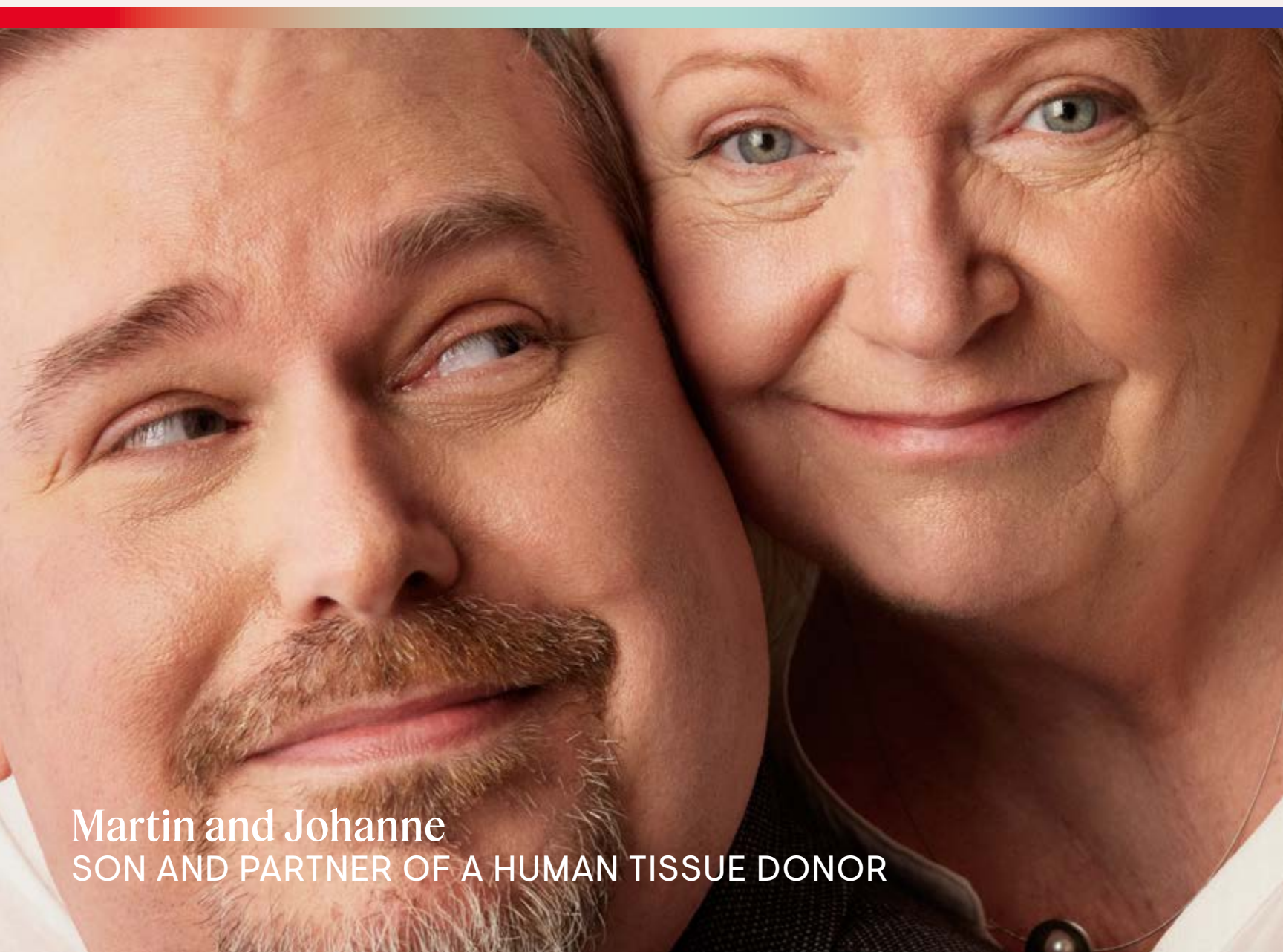
donor referrals received

991

tissue donors

5,400

tissues distributed to hospitals



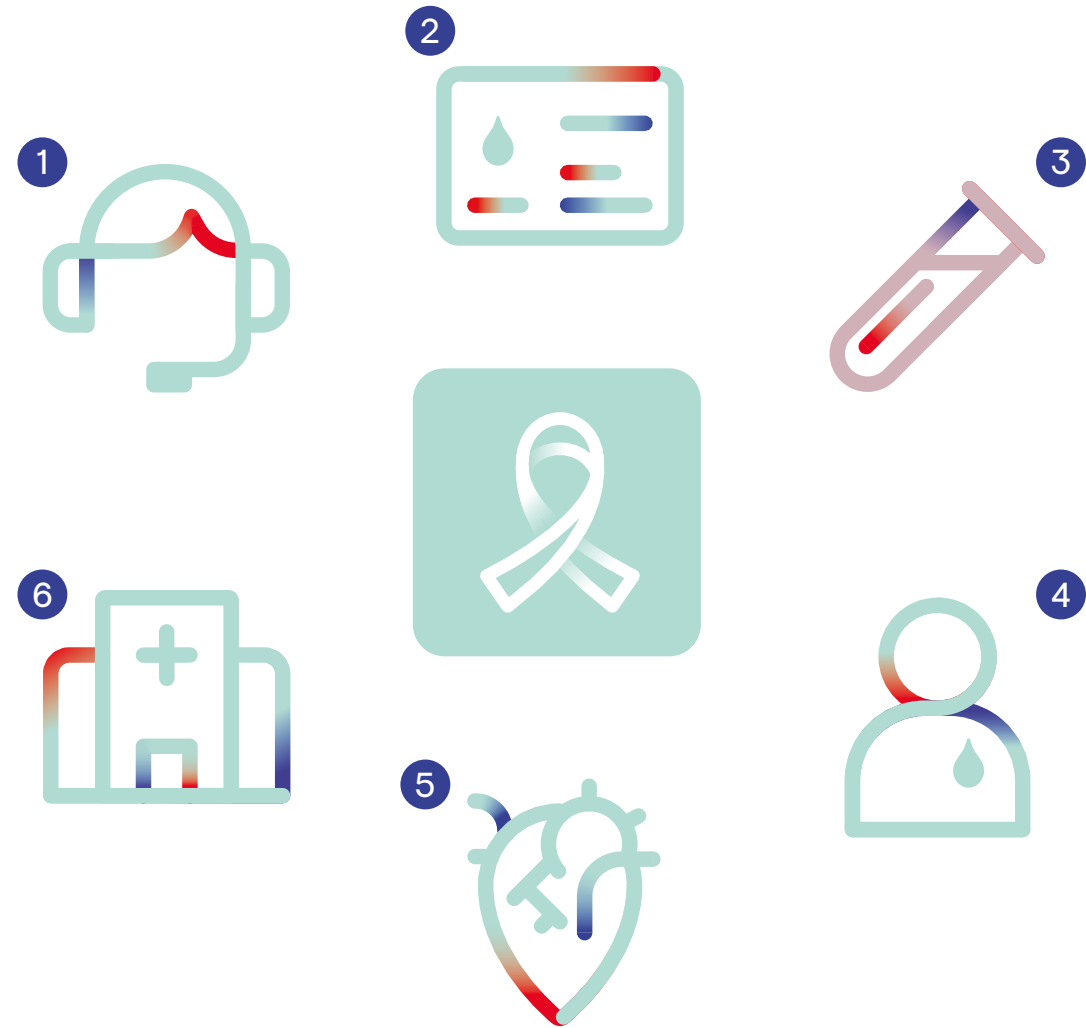
Martin and Johanne
SON AND PARTNER OF A HUMAN TISSUE DONOR



Human tissues

Human tissues

From donor referral to transplantation



1. DONOR REFERRAL

Health professionals refer donors to Héma-Québec.

2. CONSENT

Consent registries are checked. It is important for the donor to share their decision to consent to donating tissue with family members, since they are the ones who speak on behalf of the donor after death.

3. QUALIFICATION

Héma-Québec conducts a thorough evaluation to verify the donor's eligibility.

4. COLLECTION

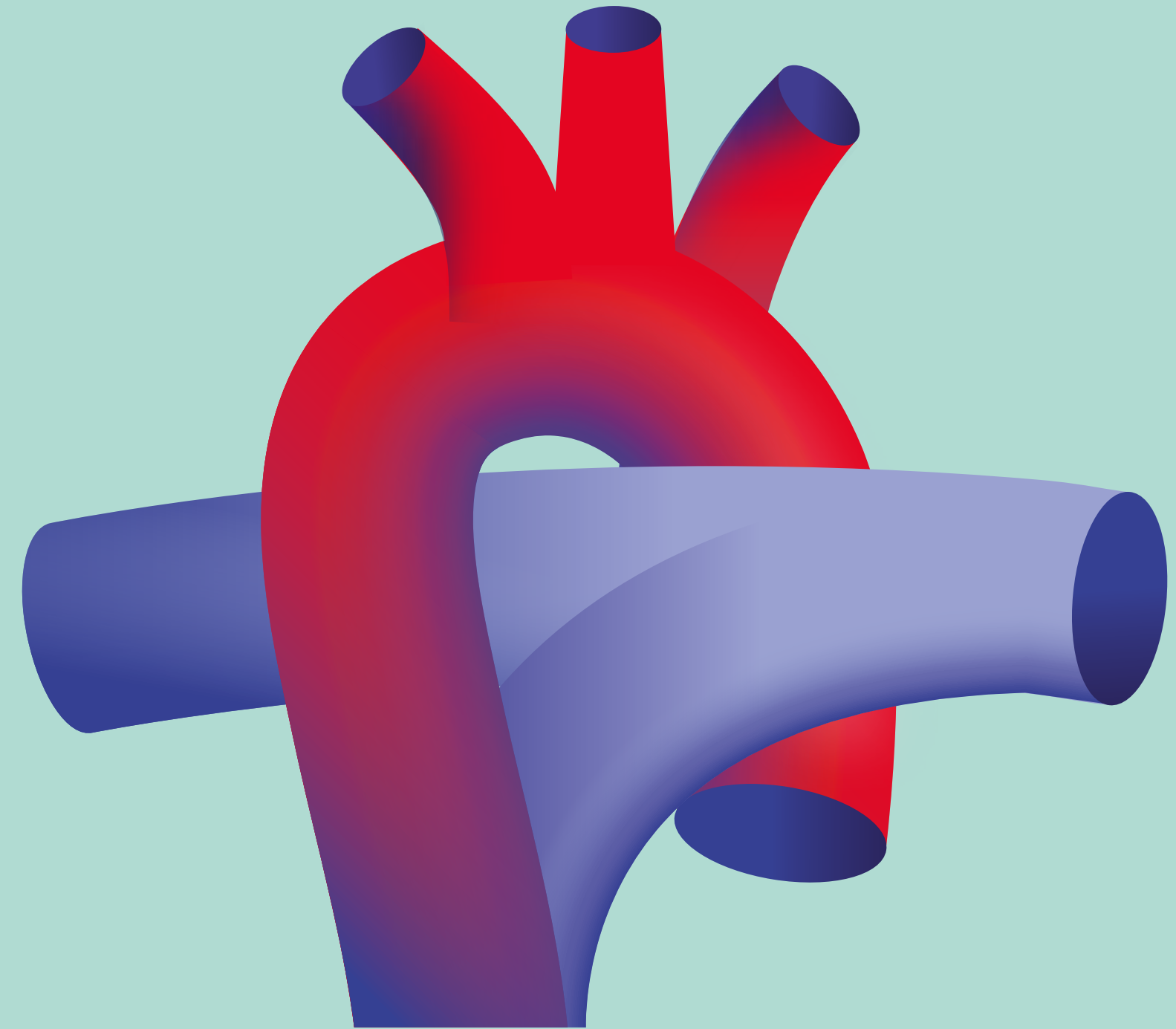
Héma-Québec collects the tissues.

5. PROCESSING AND STORAGE

The tissues are processed and stored until they are transplanted. Most tissues can be preserved for up to five years, with the exception of corneas, which can be preserved only 14 days.

6. TRANSPLANTATION

The surgeon transplants the tissues.



Héma-Québec collects heart valves, ocular, cutaneous, arterial and musculoskeletal tissues. One tissue donor can help up to 20 people.

For example, to restore sight with a corneal transplant or to treat serious burns using skin grafts.

Mother's milk

THE ROLE OF HÉMA-QUÉBEC

Héma-Québec operates the Public Mothers' Milk Bank for Québec. Its mandate is to provide pasteurized human milk to infants born preterm at 32 weeks' gestation or earlier who require medical care and whose mother cannot breastfeed. The organization is responsible for donor recruitment and qualification, processing and analysis of milk, as well as its distribution to hospitals.

2023–2024 AT A GLANCE

1,050

registered donors

19,645

bottles distributed

In the municipalities of the metropolitan communities of Montréal and Québec City, the bottles of milk are collected at donors' homes. In other regions, the bottles can be brought to one of the drop-off points.



Mother's milk

Poonam

MOTHER'S MILK DONOR

Mother's milk

From donation to distribution



1. DONATION

Héma-Québec supplies bottles; mothers collect their milk at home and freeze it.

2. PICK-UP OR DROP-OFF

Depending on the region, the bottles of milk are collected at the donor's home or brought by the donor to a drop-off point.

3. POOLING OF DONATIONS

Héma-Québec mixes the donations of several donors by lot.

4. PASTEURIZATION

The milk is pasteurized to eliminate viruses and bacteria.

5. MICROBIOLOGICAL ANALYSES AND STORAGE

Héma-Québec tests the milk to ensure that it is safe for recipients. If the results are compliant, the milk is frozen and stored for one year from the date of the first donation.

6. DELIVERY

The milk is distributed to hospitals and destined for extremely preterm babies who cannot be breastfed by their mother.



Mother's milk saves lives.

Each year in Québec, some 1,000 premature babies whose mother cannot breastfeed benefit from milk donated to Héma-Québec's Public Mothers' Milk Bank.

Specialized laboratory services

THE ROLE OF HÉMA-QUÉBEC

In addition to meeting the needs of the Québec population as a supplier of biological products of human origin, Héma-Québec provides specialized laboratory services to its Québec healthcare system partners. In this role, it is recognized as a referral centre in the field of transfusion medicine.

2023–2024 AT A GLANCE

32,624

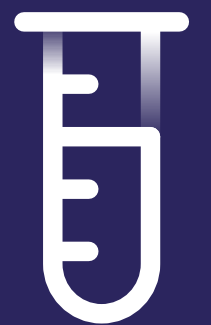
tests conducted
for Québec hospitals

4,969

patient requests referred
to the reference laboratories

25,011

phenotyped packed red
blood cells delivered to
Québec hospitals



Specialized
laboratory
services

Specialized laboratory services

From request to specialized products and services



1. REQUEST AND SAMPLES

Health professionals send requests for testing and samples to the reference laboratories.

2. ANALYSES

Based on the type of request received, various tests may be performed, including identifying irregular antibodies, phenotyping, genotyping, and HLA typing.

3. REPORT

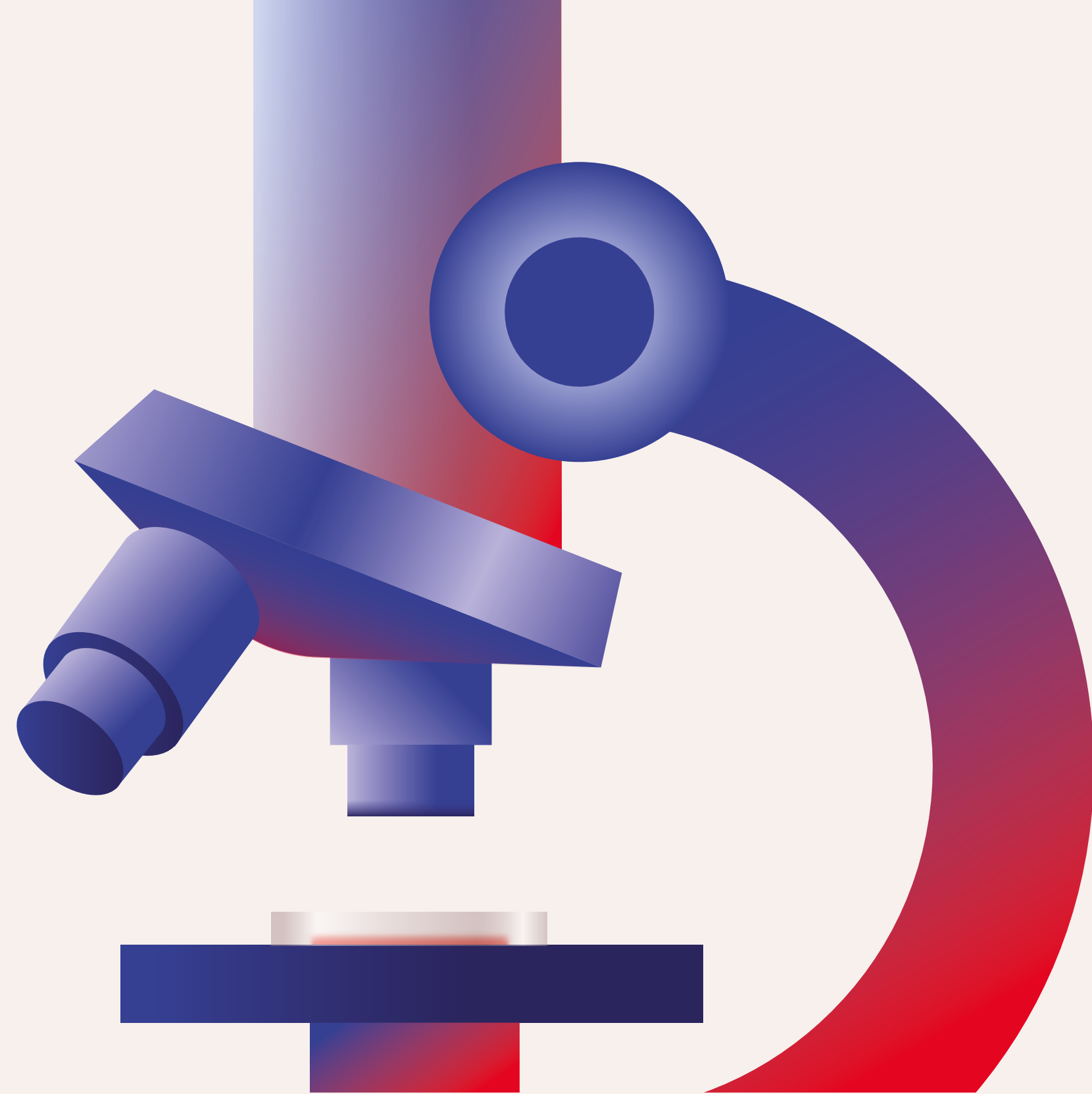
Once the tests are completed, the results are sent to the health professional who initiated the request.

4. SPECIALIZED PRODUCTS AND SERVICES

Based on the results, the health professional contacts Héma-Québec to find an adult donor or cord blood units for stem cell transplantation, or to provide specialized products, such as phenotyped packed red blood cells, rare blood or typed platelets.

5. SCREENING OF DONORS

To ensure the supply of specialized products, the reference laboratories constantly perform screening tests of Stem Cell Registry donors, cord blood units and blood product donors to find a compatible person eligible to donate.



Specialized laboratory services provide solutions to complex transfusion medicine issues.

They provide the expertise healthcare professionals need to ensure the safety and well-being of their patients.

Innovation

STRATEGIC PARTNERSHIPS SERVING THE HEALTH CARE SYSTEM

Héma-Québec's involvement in many partnerships and studies really helps make it a strategic partner in Québec's healthcare system.



Withdrawal of Creutzfeldt-Jakob disease criteria

Over the course of 2023, our teams undertook several projects consistent with our goal of making the donation of blood products more inclusive. This work paved the way to the withdrawal of the criterion regarding variant Creutzfeldt-Jakob disease, which came about in December following approval by Health Canada.

Evaluation of pathogen inactivation technology (PIT)

In 2023, Héma-Québec has also undertaken the evaluation of pathogen inactivation technology (PIT), which lowers the risk of transmitting infections through transfusion and could eventually allow us to alleviate—or even eliminate—certain exclusion criteria for blood donations associated with donors' sexual behaviours. Héma-Québec currently leads a project to establish the parameters for product collection and preparation with PIT, and further understand the effects on its processes.

New granulocyte isolation and collection method

Our teams are also working on developing a new method to isolate and collect granulocytes—a product that is transfused to certain immunosuppressed patients. Ultimately, this method will make it possible to add value to a byproduct, i.e. residual leukocytes, that is usually rejected.

Increased plasminogen drops production

Several of our achievements have also improved, or are improving, the health of the Québec population. Six children with ligneous conjunctivitis—a rare genetic condition that can lead to blindness—can now benefit from plasminogen eye drops produced by Héma-Québec. Given the growing need, we are on track to transition from an experimental production to an ongoing and standardized production.

Innovation

MAIN RESEARCH AND DEVELOPMENT AREAS

Héma-Québec also promotes innovation and continuous improvement through its various activities.

Operational support

- Evaluation of new technologies
- Improvements in operational methods and processes
- Qualification testing of biological products

Research and development

- New product development
- Basic research
- Epidemiological research
- Research on trends in the use of human-derived biological products

Use of research results

- Outreach through communications



The knowledge developed by Héma-Québec's teams of physicians, statisticians, epidemiologists and researchers is shared with the medical and scientific community, and helps promote its expertise in the life sciences field.

Published by the Vice-présidence à l'expérience clientèles et aux communications.
The data reflect the results at March 31, 2024.

Reproduction is permitted with acknowledgement of the source.

Legal deposit, Bibliothèques et Archives nationales du Québec, 2024.

ISSN 2561-7478 (printed version)

ISSN 2561-7486 (PDF version)

*Original text in French. In the event of a discrepancy between
the English and French versions, the latter will prevail.*

hemaquebec.ca