



**Hellenic Cord  
Blood Bank**



# Gift of Life Donation of Umbilical Cord Blood

## A precious life offer for every one!





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# Hellenic Cord Blood Bank



Page 3

Hellenic Cord Blood  
Bank

Page 4

Haematopoietic  
Progenitor Cells, Cord  
Blood

Page 6

Unrelated Allogeneic  
Cord Blood Banks

Page 9

Equipment,  
Transportation,  
Shipment Of Non-  
Cryopreserved Cord  
Blood Between The  
Cord Blood Collection  
Site And The Cord  
Blood Processing  
Facility



The Biomedical Research Foundation of the Academy of Athens (BRFAA) is the most recent addition to the Life Sciences Research organizations in Greece. It began its activities in 2004 and is located 3km from downtown Athens, in a modern 26,000 m<sup>2</sup> building.

The founding principle of BRFAA is to host both basic and clinical research thus, providing an ideal setting for the emergence of translational activities.

BRFAA is one of the few institutes with such character in Europe and is certainly unique in Greece.

The goal of BRFAA is to achieve excellence through the recruitment of high quality investigators that will

**Biomedical  
Research  
Foundation of  
Academy of Athens  
(BRFAA)  
and the Hellenic  
Cord Blood Bank  
(HCBB)**

carry out cutting-edge research, as well as through the establishment of state-of-the-art research facilities. The BRFAA is overseen by Ministry of Education.

BRFAA consists of 10 Research Centers specialized in different aspects of Biomedical Research:

- Systems Biology
- Cancer Biology
- Nanomedicine
- Neurobiology
- Immunology and Transplantation
- Experimental Surgery
- Clinical Research
- Environmental Health & Biophysics



And two Centers devoted to Basic Sciences. These Centers support the activities of more than 50 research groups that focus their investigations in basic cellular mechanisms, stem cells, cancer, metabolic diseases, development and ageing as well as the function of the cardiovascular, immune and nervous systems.

The Hellenic Cord Blood Bank (HCBB) operates within the Center of Clinical Research (Department of Cellular Therapy - Immunogenetics and Cellular Therapy with Haematopoietic Progenitor Cells).

The Hellenic Cord Blood Bank is the FIRST Bank in Greece that commenced supporting Unrelated Allogeneic Transplantation, as well as the FIRST Bank that became Associate Member of NetCord.

The HCBB is a member of the following International Organisations:

- Associate Member of NetCord
- Has obtained registration number from Food and Drug Association (FDA)
- Bone Marrow Donors Worldwide (BMDW)
- EuroCord

The **HCBB's goal** is the processing and cryopreservation of 10,000 cord blood units, which would cover all the frequencies of HLA antigens of Greek population, in order to support all Greeks in need of Haematopoietic Progenitor Cell Transplantation anywhere in the world.

The **HCBB** is housed within the **BRFAA** since March 2003.

Since January 2006, the HCBB became Associate Member of the international NetCord Foundation.

In January 2006 the HCBB listed the first 100 cord blood units to the international registry of NetCord and since March 2007 the HCBB has released cord blood units to



Children's Hospital "Agia Sofia" for transplantation to children with blood diseases. In 2011, the HCBB released the FIRST cord blood unit abroad.

The cord blood unit was shipped to United Kingdom in order to be transplanted to an adult patient suffering from leukaemia. So far, the HCBB has listed almost 2300 cord blood units, to NetCord, ready to be transplanted.



## **Umbilical Cord Blood and Haematopoietic progenitor cells**

### **What is umbilical cord blood?**

Umbilical cord blood (UCB) is the blood that remains within the umbilical cord and the placenta after birth. The UCB is enriched in haematopoietic progenitor cells, as in bone marrow, and in a lesser scale of mesenchymal stem cells.

### **What do we call haematopoietic progenitor cells?**

The most important cells within the umbilical cord blood are the haematopoietic progenitor cells.

The haematopoietic progenitor cells will give rise to all blood cell lines, including red blood cells, white blood cells, and platelets, just to mention a few.

Most of the malignant blood diseases could be treated with haematopoietic progenitor cell transplantation.

Sources of haematopoietic progenitor cells are the bone marrow, the umbilical cord blood and the peripheral blood.

Haematopoietic progenitor cells are usually used for transplantation to patients with severe blood diseases, in order to renew and reset the cells of the blood and the immune system.

In clinical practice the blood diseases that could possibly be treated with haematopoietic progenitor cell transplantation are: leukaemias, metabolic disorders, immunodeficiencies, autoimmune disorders, etc.





### **Why use umbilical cord blood (UCB) for transplantation?**

The UCB as an alternative source of haematopoietic progenitor cells for transplantations has an advantage over the bone marrow, since:

The compatibility of donor - patient transplanted should be almost 100%, whereas, the compatibility with umbilical cord blood could be around 65-70%.

An umbilical cord blood transplant can be found within a few days (10-20 days) whereas, the request of a bone marrow transplant could reach up to 3 months.

Furthermore, in bone marrow collection the donor should be put under general anesthesia and be operated.

Umbilical cord blood collection lasts for 5 minutes and is simple and harmless for the infant and the mother.

The umbilical cord blood and the umbilical cord are of no use after birth and should be donated otherwise will be discarded.





## When was the first transplantation of umbilical cord blood performed?

The first successful transplantation was performed by E. Gluckman in 1988 to a child suffering from Anaemia Fanconi.

Since then, more than 20,000 allogeneic

umbilical cord blood units have been transplanted.

More than 2000 allogeneic cord blood units are transplanted every year internationally, and there are over 600,000 cord blood units available for transplantation.

## The role of cord blood Banks that support Allogeneic transplantation

## What is the role of cord blood Banks that support Allogeneic transplantation?

In “Public” Banks you donate umbilical cord blood for free.

That way you may help anybody who might be in need for haematopoietic progenitor cell transplantation.

Therefore, ONE donates umbilical cord blood to be used by the OTHER (“Allogeneic” greek: allos-other).

The cord blood Banks are called Unrelated Allogeneic Banks of umbilical cord blood”, where ONE donates for ALL and ALL for ONE.

The role of Umbilical Cord Blood Banks is the collection, processing, cryopreservation and the release of the cord blood unit to the international registries. The set up and the operation of all “Public” Banks follow the rules and regulations of the international organization



of accreditation Fact-NetCord.

In March 2008 the law of Greek government (Presidential Decree 26/2008-ΦΕΚ 51/Α'/24.3.2008), which adopted the European legislation, describes the rules and regulations of collection, processing and cryopreservation of cells and tissues.

According to all the information mentioned above, all "Public" Banks (Unrelated Allogeneic Cord Blood Banks) abide by very strict rules of umbilical cord blood collection and cryopreservation. Almost 80% of the total number of the cord blood units collected is rejected. The main reason is the low number of the haematopoietic progenitor cells of the cord blood unit.

### **Is there a cost for the umbilical cord blood transplantation?**

The cost of transplantation is covered by your public insurance body.

### **What made possible the wide range use of Haematopoietic Progenitor Cells?**

The wide range use of haematopoietic progenitor cells became feasible, since the establishment, in 1993, of the First Umbilical Cord Blood Bank in New York.

Donation of  
Umbilical Cord Blood

A gift of life



## **Donation, umbilical cord blood collection kit**



## **Cryopreservation of umbilical cord blood unit**

The cord blood units that meet the requirements of the rules and regulations of NetCord are processed and cryopreserved at  $-196^{\circ}\text{C}$ , in liquid nitrogen.

## **Is cell recovery successful after cryopreservation?**

Absolutely. Cells after defrosting are ready to be used for transplantation.

## **Do I have priority if I do participate in the Unrelated Allogeneic donation program of umbilical cord blood?**

The participation to a “non-relative umbilical cord blood Bank” is voluntary and does not ensure any priority since medical reasons cancel it out. Specifically, the selection of the appropriate donor is based on genetic factors such as HLA compatibility, among donor and the patient to be transplanted.

## **How possible is to get a compatible unit if my child needs to be transplanted?**

That will depend on the genetic features of your child (HLA antigens). However, in the recent years and with the establishment of numerous Cord Blood Banks, for the allogeneic transplantation almost every patient would be able to find a suitable match.

## **Which government bodies regulate the operation of the Hellenic Cord Blood Bank?**

The Hellenic Cord Blood Bank is being regulated from the Ministry of Education, the Ministry of Health as well as the Hellenic Transplant Organisation.

## **Does it really worth it to donate my infant’s umbilical cord blood unit?**

By donating the umbilical cord blood unit to the Hellenic Cord Blood Bank you offer a **GIFT OF LIFE** to any child or adult, who is in need of haematopoietic stem cell transplantation.



## How will I get informed of the importance of umbilical cord blood collection and be provided with the umbilical cord blood collection kit?

For residents within the area of Attica: Informative seminars are being held on the ground floor of BRFAA every Monday, Wednesday and Friday at 11:30 O'clock in the morning and every Monday and Wednesday at 16:00 O'clock in the afternoon. Over the seminar you are also being provided with a thermally insulated bag which contains the necessary documents and the umbilical cord blood collection kit

For the residents away from the area of Attica: For those people, an informative presentation could be held through the phone and the thermally insulated bag which contains the necessary documents and the umbilical cord blood collection kit could be sent to your place, at your own expenses.

## What is included within the umbilical cord blood collection kit?

- Umbilical cord blood collection bag
- A Falcon tube for the section of the umbilical cord (for HLA typing)
- Two tubes for mother's plasma
- A tube for testing mother's blood
- Printed documents

## How to transport and deliver the non-cryopreserved unit from the cord blood collection site to the cord blood collection facility?



- The transfer of the umbilical cord blood kit should be preferably done within the first 24 hours and not more than 48 hours after birth, otherwise the cord blood unit will be rejected. You may deliver the cord blood unit from Monday to Friday from 8:30 to 15:00 and over weekends and holidays from 10:00 to 14:00.
- If you cannot transfer the cord blood unit to the HCBB at the times mentioned above, then you should preserve the cord blood unit within the fridge (4-8 °C)

- The cord blood unit should be transferred in a thermally insulated bag
- All the documents should be filled in.
- If you have any inquiries you may fill out the printed material with the assistance of the HCBB staff.





## Hellenic Cord Blood Bank

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 Tel: 210-6597697 Fax: 210-6597345  
[www.hcbb.gr](http://www.hcbb.gr)

### How to get to BRFAA?

**If you are driving on Mesogion Avenue** turn right, to Kiprou Ave. opposite the Ministry of Defense. At the first traffic light turn right to Ionias street. After the school buildings turn right and turn right again at the first street. Following that street (Soranou Efessiou) you will arrive at the entrance of the BRFAA.

**From Imittou loop (Attiki Highway):**  
 Exit at Y2 (Papagou exit) and drive towards Anastaseos street to Papagou. At the second traffic lights turn left to Papagou Street and at the fork turn left to Ionias Street. At the traffic light keep driving straight, after the school buildings turn right and turn right again at the first street. Following that street (Soranou Efessiou) you will arrive at the entrance of the BRFAA.

**From Kareia-Kanelopoulou Avenue (Katehaki):**  
 Turn right at the traffic lights signed Papagos and drive towards Pindos street. At the end of Pindos street turn left to Argirokastrou Street. At the traffic light keep straight and after the school buildings (on your right hand side), turn right at the first street. Following that street (Soranou Efessiou) you will arrive at the entrance of the BRFAA

