

## PRESS RELEASE

To : Editor  
From :  
Date : 31 January 2008  
Pages : 2 (incl.this page)

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### Quality of platelets can be measured fast and efficient by new invention

Safeguarding the safety and quality of platelets is of crucial importance. Currently, the quality of platelet concentrates is determined by a subjective visual check or by removing a sample from the bag. BCSI, Blood Cell Storage Inc. ( Seattle USA ) developed a new unique method for measuring platelet quality. The method permits the quality of platelets to be determined rapidly and easily. In co-operation with Sanquin(++) in Amsterdam, recently the BCSI pH1000™ has been developed and the system is now being evaluated to determine the quality of platelet concentrates!

++ *The Sanquin Blood Supply Foundation, is on the basis of the Blood Supply Act responsible for ensuring the quality, safety and availability of blood and blood products from non-remunerated donors in The Netherlands. In this role, Sanquin is one of the most prominent organisations in the field of blood and blood products. Sanquin develops and produces pharmaceutical products, conducts high-quality scientific research, and develops and performs a multitude of diagnostic services.*

#### Platelets

Platelets (thrombocytes) are very small blood elements that are formed in the bone marrow. Together with the clotting factors, they are responsible for stopping bleeding. An adult has approximately 150 to 400 billion blood platelets per litre of blood. People who don't have enough platelets have a big risk of life threatening bleeding. Cancer patients undergoing chemotherapy and radiation treatment, transplantation patients and patients with other blood diseases, such as leukaemia, and many accident victims, often have a shortage of platelets.

.Platelets are collected by separation techniques from units of whole blood. Unlike other blood components like plasma and red cells, platelets can only be stored at room temperature for a few days. This makes storage and transport of platelet concentrates complex. The quality of the platelet concentrates is measured at the end of storage in the blood bank, prior to shipping to the hospital for transfusion into patients, by taking at random samples and measuring the degree of acidity (pH). The pH is considered to be a good indicator for the quality, i.e. the "vitality" or "health" of platelets..

#### Measuring quality

Until very recently it was only possible to control the quality of platelets by a subjective visual check or by sampling a very limited number of units of platelets. Disadvantage of the present methods of quality control are that they are either subjective or, by taking a sample, the sterility is broken and the respective unit of platelets can not be used anymore. The method of taking a sample at the end of storage time in the Blood Bank, at which the pH is measured, is therefore used only at 1% of the units of platelets according to the EU guidelines.

### **New method**

Blood Cell Storage Inc., a biotech company in Seattle, USA, specializing in developing chemical biosensor technology, has developed a new, unique method that makes it possible to measure the quality of *all* platelet concentrates rapidly and simply, without taking samples, thereby maintaining sterility. By means of a light measurement through a small built in window in the platelet storage bag it is possible to check the acidity of the platelets, simply, fast and many times during storage, up till the moment of transfusion in the hospital.

A few years ago BCSI and the division of Research of Sanquin in Amsterdam set out to solve this problem. Together with the laboratory for Blood Transfusion Technology, a unique technology has been developed from a product idea into a product which measures *pH non-invasively* (without taking a sample from the storage bag) in blood products.

The platelet storage bags, containing an integrated pH measuring probe, are manufactured in the Netherlands, and the European headquarters of the company is located in Dalen. From the European office there is a close co-operation with leading Institutes and Blood Banks in the Netherlands and Europe.

### **Sanquin Blood Bank Region North East**

After the development with the laboratory for Blood Transfusion Technology of Sanquin in Amsterdam, the Blood Bank North East had started to test the product in a blood bank environment beginning 2007 as the first blood bank in the world.

Following CE approval in June 2007, the Blood Bank North East was the first Blood Bank that started an evaluation of 100% quality control of platelets by measuring pH with the BCSI pH1000™. In addition, the measurement of pH is being evaluated in the northern distribution centres of Sanquin and in two hospitals. This is a major step forward in introducing the technology to the Netherlands to control platelet quality from preparation till just prior to transfusion!!

With this evaluation program the Sanquin Blood Bank North East Region is leading with *controlling and monitoring the quality of platelet concentrates*.

More information at:

[www.bloodcellstorage.com](http://www.bloodcellstorage.com)

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