

RESOLUTION (68) 32

(Adopted by the Ministers' Deputies on 31 October 1968)

**ESTABLISHMENT IN AMSTERDAM OF A EUROPEAN
BLOOD BANK OF RARE GROUPS**

The Committee of Ministers,

Considering that the Central Laboratory of the Netherlands Red Cross Blood Transfusion Centre intends to establish a European Blood Bank of Rare Groups in Amsterdam ;

Considering the advantages of such a bank and the urgent need to set it up pending the creation in the other Council of Europe member states of national blood banks of a similar type ;

Having regard to the methods envisaged for the functioning of the said European Blood Bank and to the blood groups which it is foreseen to include therein, as well as to the estimated credits required for its establishment and the additional costs made necessary by its use, as shown in Appendix I of this resolution ;

Noting the means by which the said European Blood Bank is to be supplied and requests for its services transmitted, as shown in Appendix II of this resolution ;

Considering that the Government of Finland has expressed the desire to participate in the operation of the above-mentioned European Blood Bank,

Resolves :

- (i) to contribute Dfl. 45,000 towards the cost of setting up the European Blood Bank of Rare Groups to be provided for in the 1969 budget and to be paid to the Central Laboratory of the Netherlands Red Cross Blood Transfusion Centre in Amsterdam for the acquisition by the said Central Laboratory of a "Union carbide" liquid nitrogen refrigerator ;
- (ii) to grant an annual subsidy of Dfl. 11,000 toward the running and maintenance costs of the said European Bank for a period of 5 years, namely 1969 to 1973, to be provided for in the budgets for the said years and to be paid to the Central Laboratory of the Netherlands Red Cross Blood Transfusion Centre in Amsterdam ;
- (iii) to invite Finland to share, on a basis to be agreed, in the above-mentioned expenses to be met from the Council of Europe budget.

APPENDIX I

A. Methods used by the European Blood Bank of Frozen Blood of Rare Groups

1. The blood is taken in a ACD-A solution (plastic bag or bottle in the country where the donor is available).
2. Storage of the collected blood at + 4° C.
3. Shipment of the whole blood, the same or the next day by air or train to Amsterdam in a proper container, e.g. a carton box with styrofoam insulation, kept at 0° C to + 6° C by melting ice in plastic bags.
4. After arrival at the Central Laboratory in Amsterdam the blood is centrifuged ; the plasma is removed, freeze-dried and stored.
5. Addition to the remaining 250 ml red cells of 250 ml of a solution containing per litre : 350 g glycerol, 29 g sorbitol and 6.3 g NaCl.
6. Transfer of these 500 ml glycerolised red cells through a closed system into a sterile stainless steel container.
7. Freezing of the red cells by immersing the filled container in a vertical position in liquid nitrogen (- 196° C).
8. Storage of the container in a biostat kept at - 180° C/196° C by means of liquid nitrogen. The use of a large amount of liquid nitrogen (\pm 100 litres) as a coolant in this biostat makes the whole system independent of break-down of electricity supply.
9. After the request for the blood of a certain donor, the corresponding stainless steel container(s) will be taken out of the biostat and thawed in a water bath at + 40° C.
10. Transfer of the thawed glycerolised red cell suspension into a plastic bag. Centrifugation and removal of the supernatant, followed by a washing with a solution containing per litre : 160 g sorbitol and 8 g NaCl and two washings with 0.9 % NaCl solution.
11. After the removal of the supernatant of the final wash, the red cells will be suspended in the dissolved original plasma.
12. Shipment of the reconstituted blood in a container at + 4° C by air or train.
13. In vitro experiments about the tenability of the reconstituted blood, indicate that a period of one week storage at + 4° C may be possible.

However, as in the case of normal washed red cells, it is strongly advised to follow the good practice of giving the processed blood within 24 hours, because of possible risk of bacterial contamination during processing.

The in vivo survival of the reconstituted blood as determined with the 51 Cr-double tag method, is completely comparable to the survival of blood before freezing (data from the Central Laboratory of the Netherlands Red Cross Blood Transfusion Centre and the New York Blood Centre).

B. Blood groups to be included in the Blood Bank of Frozen Blood

- (a) Very rare blood groups, e.g. Bombay, K^o, Vel-negative etc.
- (b) Blood, negative for certain antigens, which occur with considerable frequency and against which immune antibodies are quite frequently formed, e.g. e,k,S etc.
- (c) Blood, negative for certain combinations of antigens, e.g. c + Fy^a, e + Fy^a etc.
- (d) Blood from patients who have developed a haemolytic transfusion reaction and in whose blood no iso-antibodies against red cells have been demonstrated.

C. Estimate of credits for the establishment in Amsterdam of a European Blood Bank of Frozen Blood of Rare Groups

1. Credits required for the establishment of the European Blood Bank :

<i>Equipment</i> :	1 union carbide liquid nitrogen refrigerator LR 1000 ¹	Dfl. ²	45,000
<i>Cost per year</i> :	Liquid nitrogen	Dfl.	6,000
	Maintenance and supervision	Dfl.	5,000

2. Additional costs per unit of 500 ml blood at the consumer's expense.

Transport etc. (Schiphol Airport - Central Laboratory)	Dfl.	15
Metal container, processing solutions, plastic bag.	Dfl.	30
Process labour	Dfl.	25
Transport by air of 4 units of frozen blood to the country of destination (approx.)	Dfl.	45

1. Capacity : 400-500 units of 500 ml.

2. 1 Dfl = 1,364 French francs (as at 1 October 1968).

APPENDIX II

A. Supplies of frozen blood of rare groups to the European Blood Bank

The European Blood Bank will be supplied by voluntary donors. Where necessary, the Central Laboratory of the Netherlands Red Cross Blood Transfusion Service in Amsterdam may appeal for donations of blood through the National Health Authorities of the member states of the Council of Europe and Finland.

B. Requests to the European Blood Bank for frozen blood of rare groups

Requests made to the European Blood Bank which emanate from member states of the Council of Europe and from Finland will be transmitted through the national laboratories as prescribed by Article 6 of the European Agreement on the Exchange of Therapeutic Substances of Human Origin, or, if appropriate, through similar institutions designated for the purpose by the National Health Authorities.