
New Additive Solution for Red Blood Cells Unit Preservation.

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Background

Almost all of the whole blood collected now is made into components, and the red blood cell (RBC) fraction is stored as packed RBCs. Currently, packed RBCs (red blood cell concentrates, or RCC), the dominant form of blood product for transfusions and the like, are limited to a 42-day storage period. After this period, the product is either directly discarded or returned to blood bank organization.

This results in significant cost for the blood bank industry. In US and Canada, it is estimated that the value of the discarded RBC units is \$37.5M and \$12.0M, respectively. Thus, there is a need for technologies improving RBC storage period, and to build larger stock of RBC units over time. Dr. Kouassi's new additive solution provides for an elegant solution to increase the useful life of RBC.

Technology

Dr. Kouassi from the *Hôpital Maisonneuve-Rosemont* discovered that a chemical entity has the capacity to drastically reduce RBCs death and to promote their survival.

This major finding supports that this chemical entity could be combined with current additive solutions to improve RBCs unit storage by reducing storage lesion while increasing storage time.

Results

- In vitro incubation of RBCs in the presence of the chemical compound during extended time periods results in the survival of 2-3 times more normochromic RBCs, as compared to a standard medium without the chemical.
- RBCs express specific receptors for the chemical on their membrane surface.

Competitive advantages

- Strongly promotes red blood cells survival
- Market exclusivity with patent protection
- Simple incremental technology to the RBCs market
- Adaptable to already existing blood bag system technologies
- Market acceptance is expected to be high
- Improvement of an already approved technology

Applications

- RBCs unit storage
- Prevention and/or treatment of diseases affecting RBCs with drugs acting on pharmacologically active receptors of the chemical compound.

Patent Status

PCT patent application filed (Q3/2009)

Business Opportunity

The technology offers the possibility to gain exclusive share of the blood market with a new patentable additive solution, thus addressing a concrete need of the industry.

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