

Distribuye para Colombia

BPL MEDICAL



*Engranaje consciente, orgullo colectivo.*



# HAEMONETICS® Stem Cell

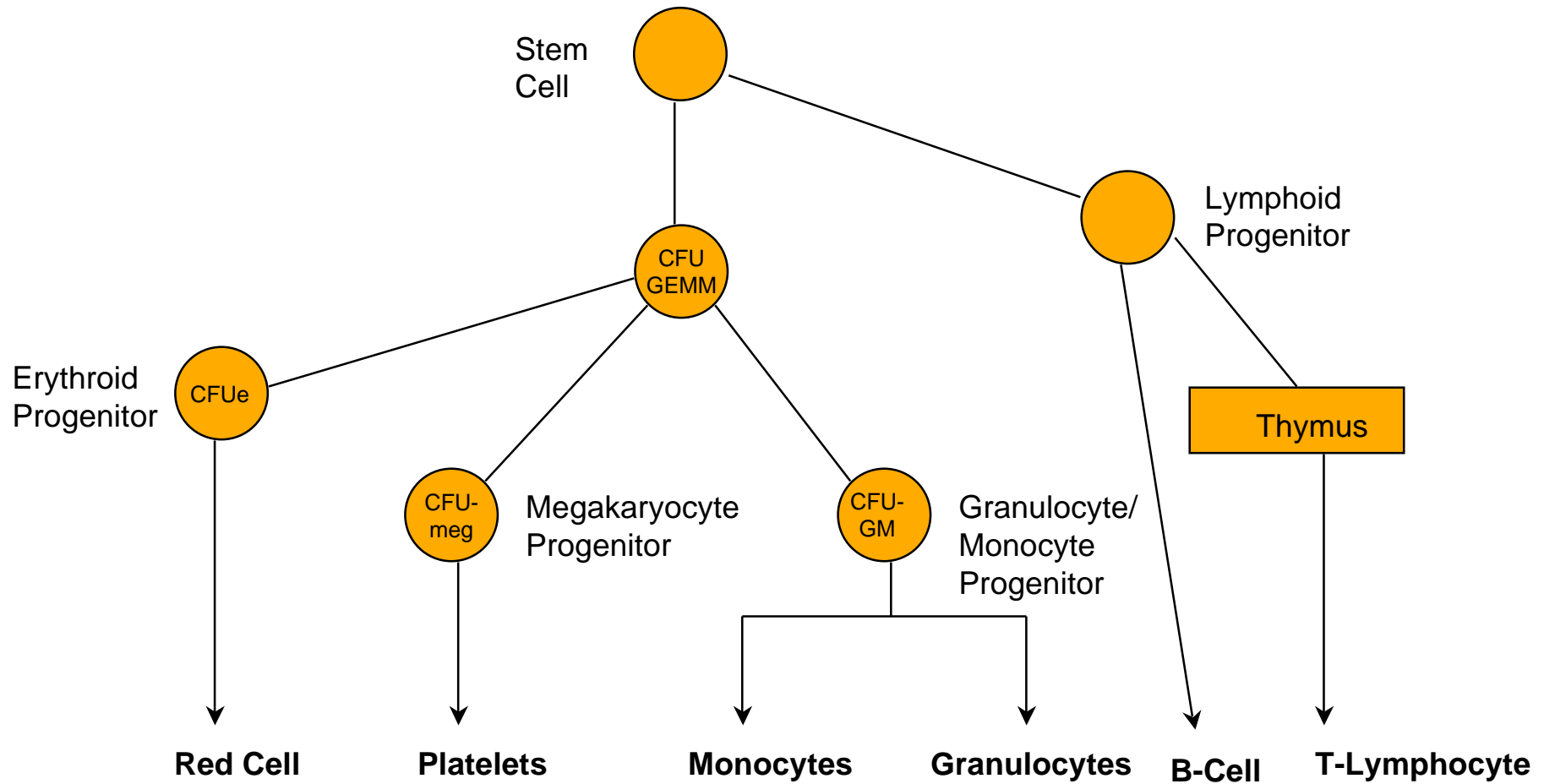
*San Diego, Octubre de 2003*

# Stem Cells - Def

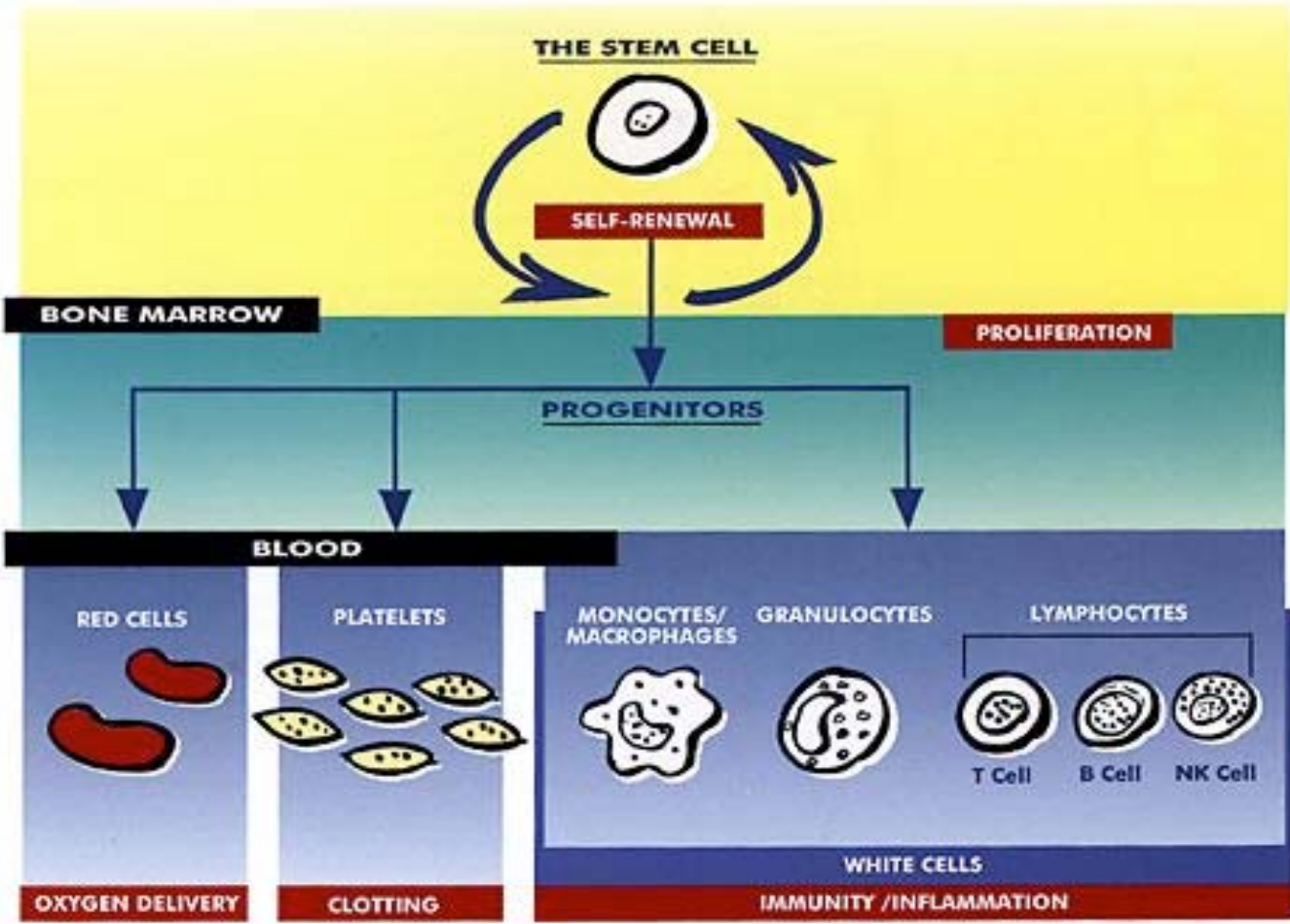


- They are immature cells capable of self-renewal and differentiation to red blood cells, white blood cells and platelets.
- They constitute the 0.01-0.05% of the total bone marrow population
- They look like little lymphocytes
- They present on their cellular surface the CD34 antigen; this antigen allows a selective antibody screening
- They can be mobilized from peripheral blood by chemo/radio- therapy and/or growth factors. In this conditions they are named Peripheral blood stem cells (PBSC).

# Hematopoiesis



# Hematopoiesis



# Usage

- To support Hematopoiesi after patient treatment with high dosage chemo/radio-theraphy

# Therapy

- Mobilization of Ematopoietic Stem Cells (chemoteraphy+growth factors)
- Stem Cells Collection from peripheral blood
- High dosage Chemo- or Radiotherapy
- Stem Cells reinfusion to support blood regeneration
- Engraftment

# PBSC Collection - Target

One collection for one  
graft

Which amount is  
sufficient ?

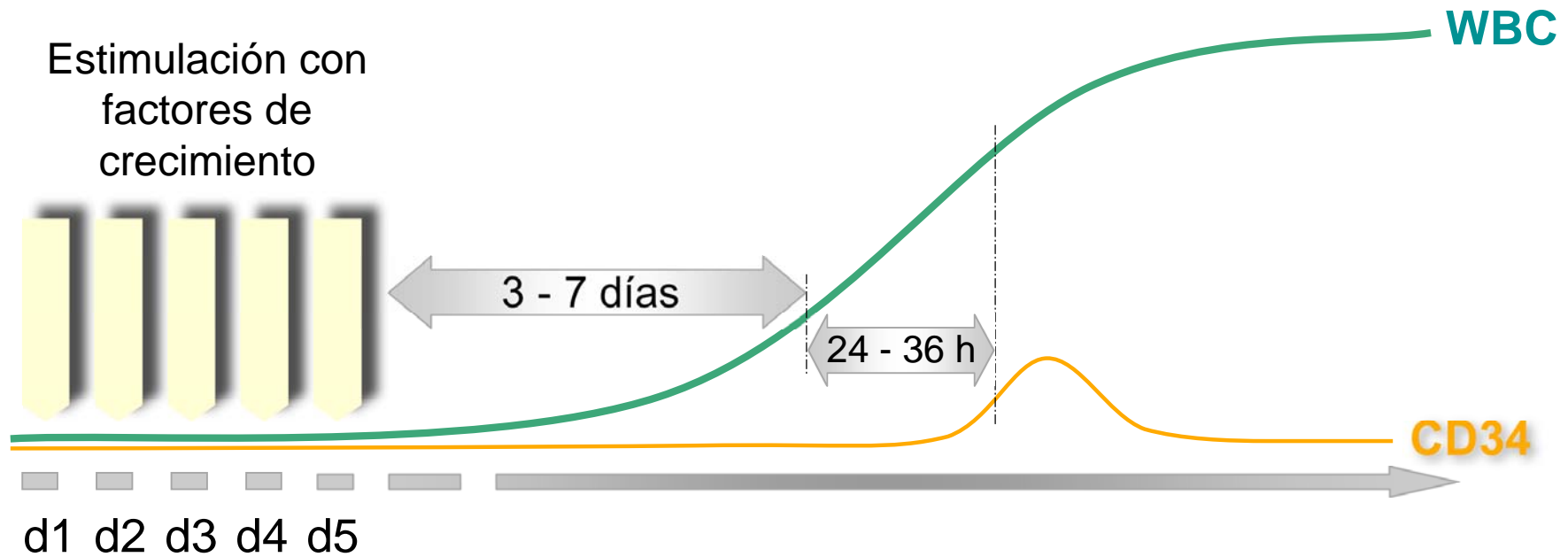
- 2-10 X 10E6/KG Body  
Weight
- Reduced red blood  
cells, platelets and  
granulocytes  
contamination
- Reduced volume

Ematopoietic Recovery

# Collection influencing factors

- Preventive Therapy
- Previous bone marrow withdrawals
- Stage of the disease
- Mobilization stage

# Estimulación del Paciente



# Estimulación del Paciente

1 dosis =  $2 \times 10^6$  kg/peso

Concentración de CD34 en la sangre:

$40 \times 0.5\% \times \text{Coef.} = 20 /\mu\text{l}$

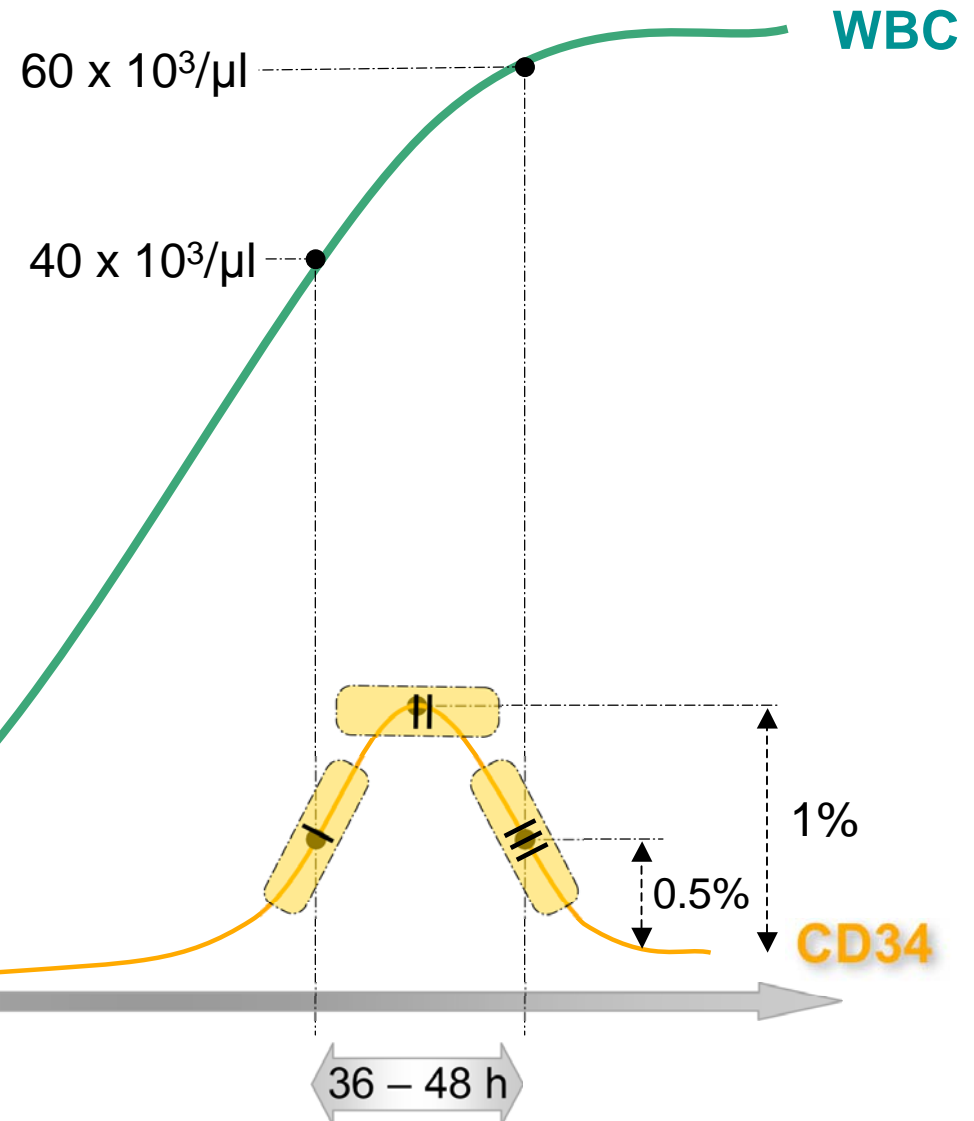
$60 \times 0.5\% \times \text{Coef.} = 30 /\mu\text{l}$

## Eficacia

I: optima 80% - 120%

II: mediana 60% - 100%

III: baja 40% - 80%

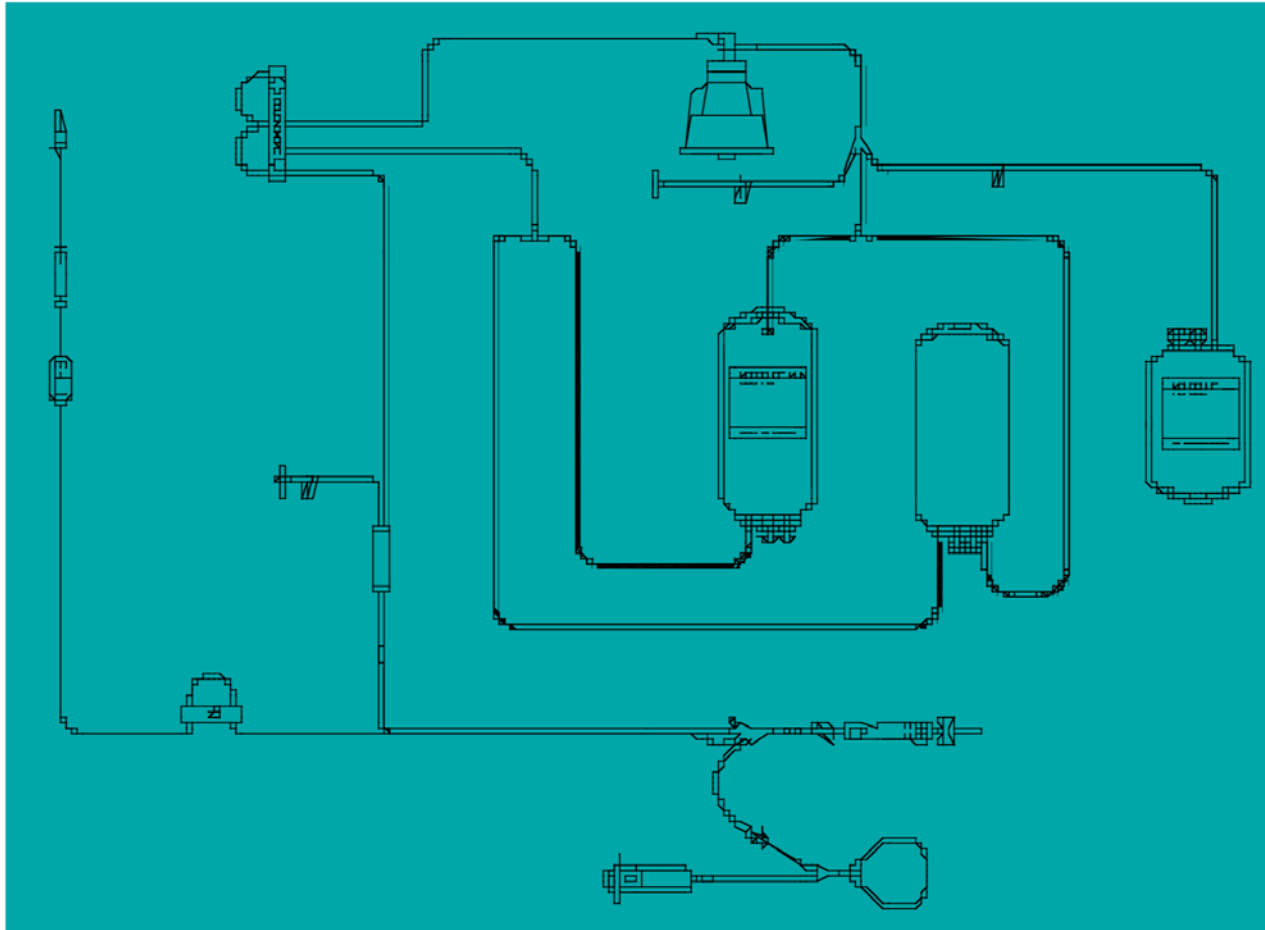


Engranaje consciente, orgullo colectivo.

# Parámetros Claves

- La estimulación correcta del paciente
  - Administración controlada de factores de crecimiento.
- La detección del periodo óptimo para el procedimiento
  - Seguimiento de la concentración de CD34 (linfocitos).
- Sistema de aféresis ?

# Descartable



LN 970

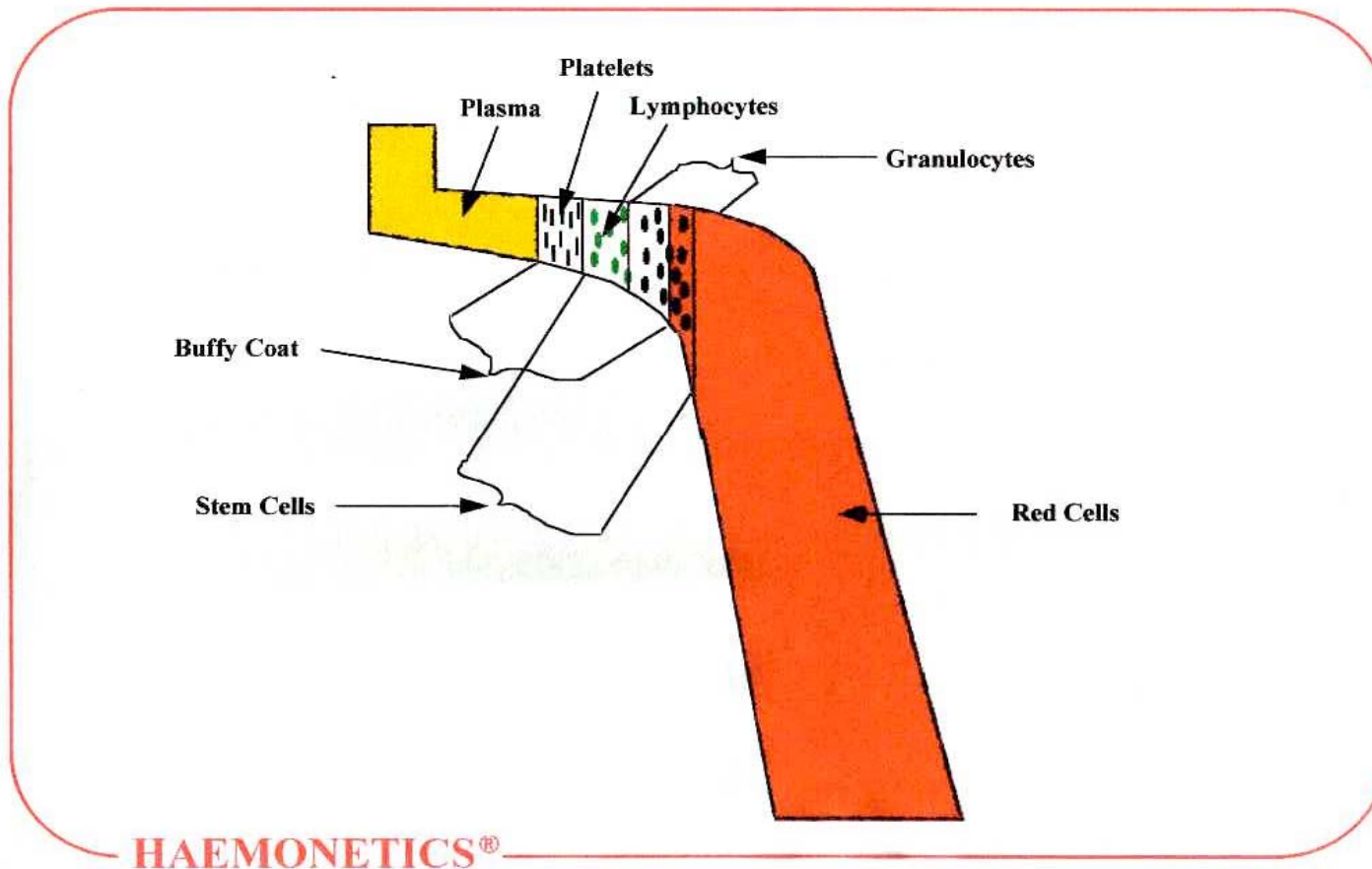
LN971

LN971E

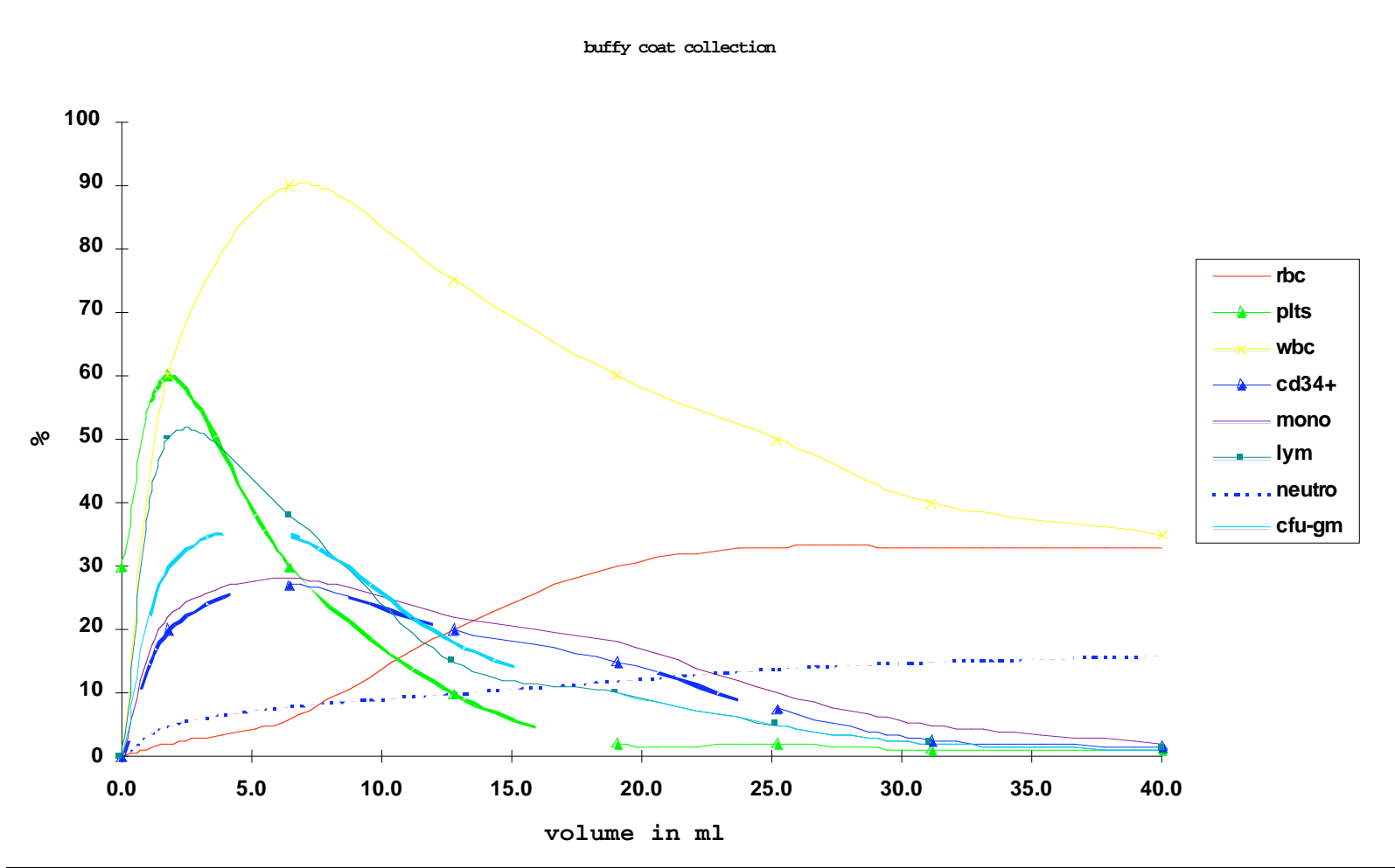
# Separation Chamber



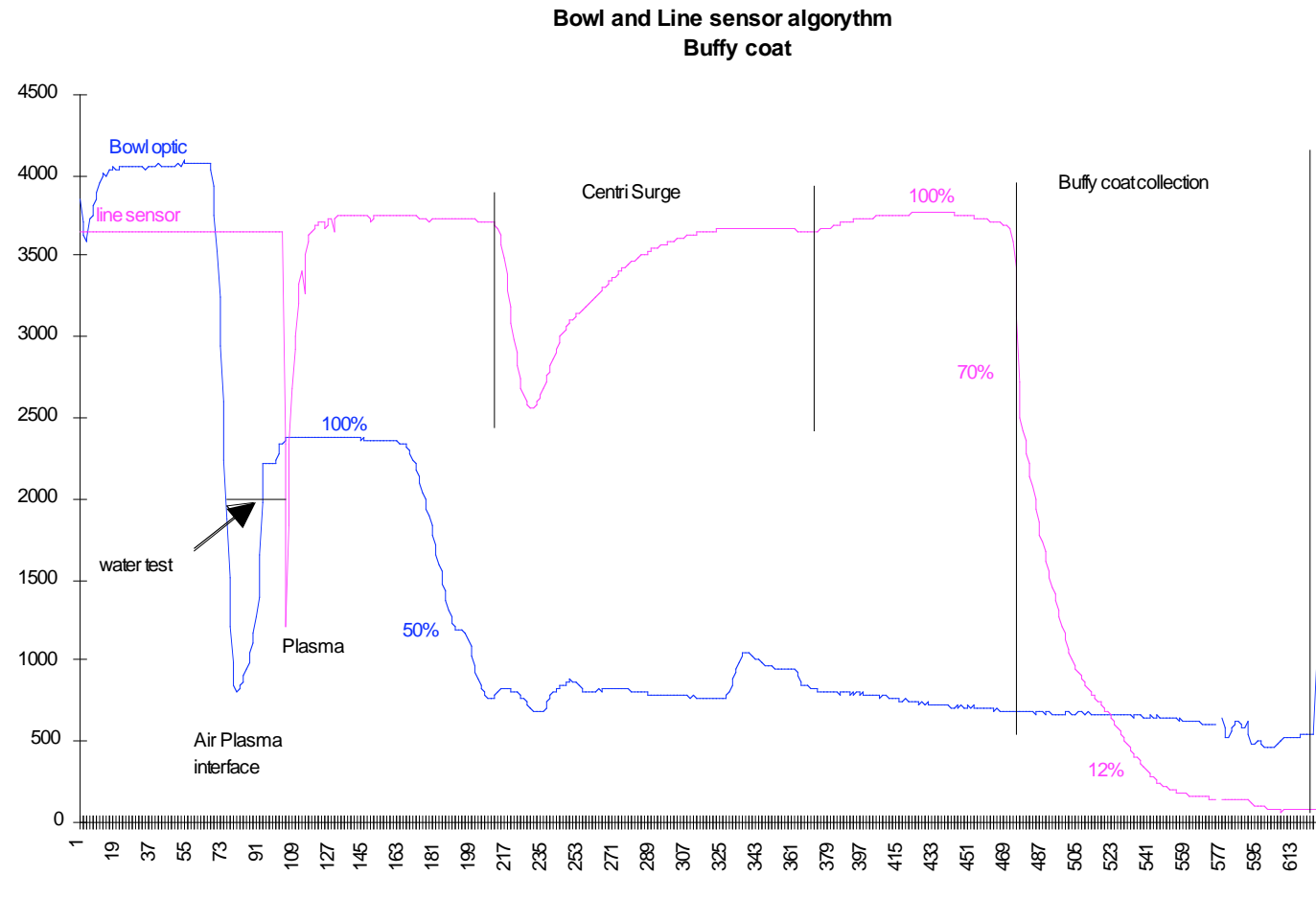
# Stratification



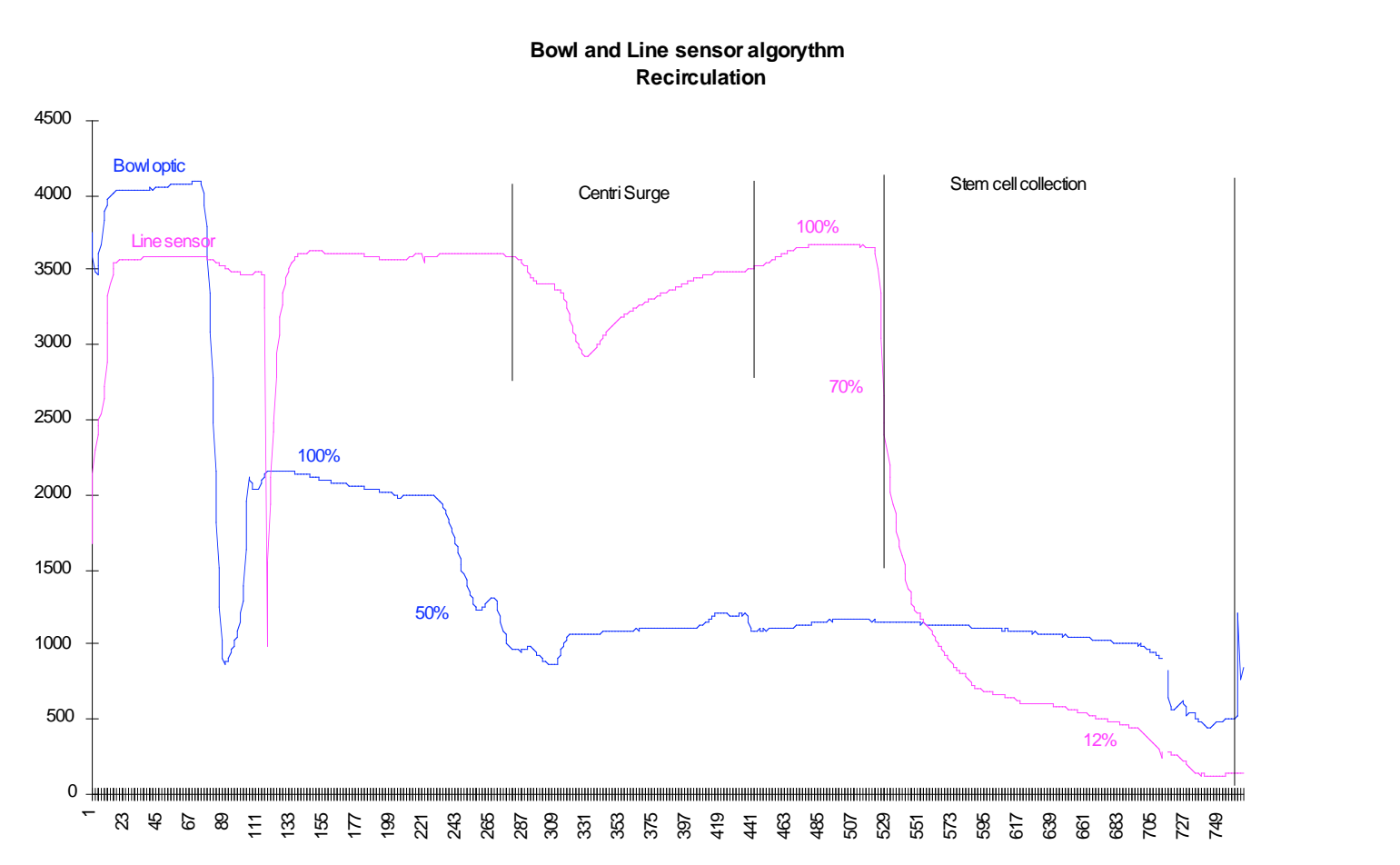
# Buffy Coat Composition



# Buffy Coat Collection Algorithm



# Recirculation Cycle



# Parametros recomendados

MODIFY	Cell Collection		
	Stem Cell	Lymphocyte	Granulocyte
Cuff Pressure	50 mmHg	50 mmHg	50 mmHg
Draw Speed	80 ml/min	80 ml/min	80 ml/min
Recirc Rate	50 ml/min	50 ml/min	50 ml/min
Collect Rate	30 ml/min	30 ml/min	30 ml/min
Return Speed	90 ml/min	90 ml/min	90 ml/min
<b>AC Ratio</b>	<b>1:12</b>	<b>1:9 - 10</b>	<b>1:9 - 10</b>
<b>Centrisurge</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>
<b>Start Collect at</b>	<b>70%</b>	<b>75 - 85%</b>	<b>30 - 40%</b>
<b>RBC Detect at</b>	<b>12%</b>	<b>30%</b>	<b>12%</b>
<b>Vol into RBC / collec</b>	<b>20 ml</b>	<b>1 - 10ml</b>	<b>40 - 50 ml</b>
<b>Vol into RBC / recirc</b>	<b>5 -10 ml</b>		
<b>HAEMOCALCULATOR</b>			
<b>End on</b>	<b>Recirc</b>	<b>8 Cycles</b>	<b>8 Cycles</b>
<b>Recirculations</b>	<b>3</b>		
<b>Recir Ratio 1:</b>	<b>5</b>		
<b>Plasma Volume</b>	<b>30 ml</b>		

