






# ISBT Code-128

## An Introduction

 W0671 08 <b>123456</b> 	 5100
<p>The Blood Center New Orleans, LA FDA Registration Number 2374536 US License Number 0354</p>	<b>0</b>
<p>PROPERLY IDENTIFY INTENDED RECIPIENT See Circular of information for indications, contraindications, cautions and methods of infusion. This product may transmit infectious agents. Rx ONLY.</p>	<b>Rh POSITIVE</b>
<b>VOLUNTEER DONOR</b>	
 E0316V00	 0080742359
<b>RED BLOOD CELLS</b> <b>ADENINE – SALINE (AS – 1) ADDED</b> From 500 mL CPD Whole Blood. Store at 1 to 6°C.	Expiration Date <b>14 MAR 2008</b>

# What is ISBT Code-128?

- ◆ It is a new, internationally recognized, method of labeling donated blood products, tissues, bone, and stem cells.
- ◆ The Blood Center, as well as most other blood centers in the U.S. currently use Codabar labeling.

# Why was ISBT Code-128 Developed?

- ◆ Already in use in Europe for many years.
- ◆ During the first Gulf War, blood collected at blood centers in the U.S. and shipped to the military had the following problems:
  - Same unit number used by multiple centers.
  - Product information was not always uniform.

# Why the Change Now?

- ◆ The American Association of Blood Banks (AABB), the major accreditation agency of blood centers in the U.S., made it a requirement for all centers to implement ISBT Code-128 symbology by **May 1, 2008**.
- ◆ The Blood Center has chosen to implement sooner on **April 14, 2008**.

# What Are the Benefits of ISBT Code-128 over Codabar?

- ◆ International
- ◆ Language independent
- ◆ Provides a standard layout
- ◆ Capable of encoding an expanded data file in the label

# What Are the Benefits of ISBT Code-128 over Codabar?

## ◆ Better accuracy

- Codabar can have reproducible barcode misreads
- ISBT Code-128 has
  - ◆ Check digit built into the barcode
  - ◆ 3 self-checking features/characters

# What Are the Benefits of ISBT 128 over Codabar?

- ◆ Better traceability – Unit ID includes
  - Facility identification
  - Year of donation
  - Donation sequence number
- ◆ Allows concatenation, or the scanning of two pieces of barcoded information at the same time.

# Current Codabar Labeling

NEGATIVE

Collection Date  
4-24-07

EXPIRES  
06/05/07

03 39269

**AS-1 RED BLOOD CELLS**  
**ADENINE-SALINE ADDED**

16.9 mEq Sodium Added 04210

From 500 mL  
CPD Whole Blood  
Store at 1 to 6 C.

See circular of information for  
indications, contraindications,  
cautions and methods of infusion.

**VOLUNTEER DONOR**

This product may transmit infectious agents.  
Rx only

**PROPERLY IDENTIFY INTENDED RECIPIENT**

**Baxter Healthcare Corporation**  
Fenwal Division  
Deerfield, IL 60015 USA  
07-17-25-629

**PL 146** Plastic

**Rh POSITIVE**

Collected and Processed by  
THE BLOOD CENTER  
312 South Galvez St.  
New Orleans, LA 70119  
U.S. License No. 0354

Registration # 2374536

CODE 4R3468  
LOT M06K28011



# ISBT Code-128 Labeling



W0671 08 **123456**



5100

**O**

**The Blood Center**  
**New Orleans, LA**  
FDA Registration Number 2374536  
US License Number 0354

**Rh POSITIVE**

PROPERLY IDENTIFY INTENDED RECIPIENT  
See Circular of information for indications,  
contraindications, cautions and methods of infusion.  
This product may transmit infectious agents.  
Rx ONLY.

**VOLUNTEER DONOR**



E0316V00



0080742359

Expiration  
Date

**14 MAR 2008**

**RED BLOOD CELLS**  
**ADENINE – SALINE (AS – 1) ADDED**

From 500 mL CPD Whole Blood.  
Store at 1 to 6°C.

# Donation Identification Number (or Unit Number) – Quadrant 1

*=α ppppp yy nnnnnn* K

<b>=</b>	<b>Data identifier</b> -Tells the computer that this is a unit number. (only appears when scanned).
<b>α</b>	<b>Country Code</b> – The U.S. is “W” or “K”.
<b>ppppp</b>	<b>Collection Facility</b> -The Blood Center is “0671”.
<b>yy</b>	<b>Collection Year</b> – Last two-digits of the year the product was collected.

# Donation Identification Number (or Unit Number) – Quadrant 1

*= α ppppp yy nnnnnn*  $\Rightarrow$  K

**nnnnnn**      **Donation Sequence Number**

**ff**            **Flag Character** – Not used in the  
U.S. so it will always be “00”.

**K**            **Check Digit** – MUST be entered when  
manually entering the Donation  
Identification Number into a computer  
system. Aids in reducing typographical  
errors during manual entry.

# Donation Identification Number (or Unit Number) – Quadrant 1



W0671 08 123456 8

◆ If recording manually, digits 1-13 ("W0671 08 123876") MUST be recorded.

- The last six digits ("123456") may be used by multiple facilities on multiple years.
- If unit is imported from another blood center, last six digits could be the same as another unit collected by The Blood Center.
- ***Only one unit in the world will have the entire 13-digit number.***

W0671 08 123456 8

- ◆ If typing manually into a computer, digits 1-13 must be entered PLUS the Check Digit
- ◆ If scanning into a computer via a barcode scanner, the characters "=" and "00" will appear before and after the 13-digits during the scan.
  - Your computer system may delete these extra characters. This is acceptable.

# Product Code – Quadrant 2

- ◆ Describes products in terms of component classes, modifiers, attributes
  - Class: Red Cells, Platelets, Plasma (anticoagulant & additive, storage conditions)
  - Modifiers: Washed, Frozen, Thawed, Rejuvenated
  - Attributes: Irradiated, Leukocyte-reduced, Open vs. Closed system, Divided

# Product Code – Quadrant 2

**= < a o o o o t d s**

**= <**

**Data identifier**-Tells the computer that this is a product code (only appears when scanned).

**α o o o o**

**Product Description Code**

**t**

**Type of Donation**-Allogenic, Autologous Directed, etc.

**ds**

**Divisions/splits**-If product is an aliquot from an original product (ex. "pedi-units")



# Product Code – Quadrant 2

## Donation Types

Character	Type of Donation
0 (zero)	Not specified (null value)
V	Volunteer homologous (allogeneic) donor (default)
R	Volunteer research donor
S	Volunteer source donor
T	Volunteer therapeutic collection
P	Paid homologous (allogeneic) collection
r	Paid research collection
s	Paid source collection
A	Autologous collection, eligible for crossover
1 (one)	For autologous use only
X	For autologous use only, biohazardous
D	Volunteer directed collection, eligible for crossover
d	Paid directed collection, eligible for crossover
2	For directed recipient use only
L	For directed recipient use only, limited exposure
E	For directed recipient use only, medical exception
Q	See ( <i>i.e.</i> , read [scan]) Special Testing bar code
3	For directed recipient use only, biohazardous
4	Designated collection
5	Dedicated collection

# Product Code – Quadrant 2



**E0316100 AUTOLOGOUS**

**RED BLOOD CELLS**  
**ADENINE – SALINE (AS – 1) ADDED**

From 500 mL CPD Whole Blood.

Store at 1 to 6°C.

# E0316100

E0316 = Red Blood Cells produced from whole blood collected in a 500mL CPD anticoagulant collection bag with AS-1 added. Store refrigerated at 1° to 6°C.

1 = For autologous use only

00 = Not divided/Not split

# E0316100

- ◆ Digits 1-8 ("E0316100") should be used for manual recording.
- ◆ Manual entry into computer systems will vary depending upon the system.
- ◆ If scanning into a computer via a barcode scanner, the characters "= <" will appear before the eight-digits during the scan.
  - Your computer system may delete these extra characters. This is acceptable.
  - Scanning the information will be interpreted differently by computer systems.

# E0316100

- ◆ If the unit was divided or split, the designations would be as follows:
  - Divisions (designated as upper-case letters A-Z)

**E03161A0 & E03161B0 – Unit divided into two aliquots.**



E03161A0 AUTOLOGOUS

**RED BLOOD CELLS**  
ADENINE – SALINE (AS – 1) ADDED  
DIVIDED

Approximately 125 mL.  
From 500 mL CPD Whole Blood.  
Store at 1 to 6°C.



E03161B0 AUTOLOGOUS

**RED BLOOD CELLS**  
ADENINE – SALINE (AS – 1) ADDED  
DIVIDED

Approximately 125 mL.  
From 500 mL CPD Whole Blood.  
Store at 1 to 6°C.

# E0316100

- **Splits (Designated as lower-case letters a-z)**

**E03161Aa, E03161Ab, E03161Ba & E03161Bb**

**Divisions "A" & "B" are split into two aliquots each.**



**E03161Aa AUTOLOGOUS**

**RED BLOOD CELLS  
ADENINE – SALINE (AS – 1) ADDED  
DIVIDED**

Approximately 50 mL.  
From 500 mL CPD Whole Blood.  
Store at 1 to 6°C.



**E03161Ab AUTOLOGOUS**

**RED BLOOD CELLS  
ADENINE – SALINE (AS – 1) ADDED  
DIVIDED**

Approximately 20 mL.  
From 500 mL CPD Whole Blood.  
Store at 1 to 6°C.



**E03161Ba AUTOLOGOUS**

**RED BLOOD CELLS  
ADENINE – SALINE (AS – 1) ADDED  
DIVIDED**

Approximately 50 mL.  
From 500 mL CPD Whole Blood.  
Store at 1 to 6°C.



**E03161Bb AUTOLOGOUS**

**RED BLOOD CELLS  
ADENINE – SALINE (AS – 1) ADDED  
DIVIDED**

Approximately 20 mL.  
From 500 mL CPD Whole Blood.  
Store at 1 to 6°C.

# Product Description Codes

Codabar

AS-1 RED BLOOD CELLS  
Adenine-Saline Added

ISBT 128

RED BLOOD CELLS  
ADENINE-SALINE (AS-1) ADDED

# Product Description Codes

Codabar

RED BLOOD CELLS  
DEGLYCEROLIZED

ISBT 128

DEGLYCEROLIZED

RED BLOOD CELLS



# ABO/Rh Label – Quadrant 3

= % *xxyy*

= %

**Data identifier**-Tells the computer that this is an ABO/Rh (only appears when scanned).

**xx**

**ABO/Rh** – Number indicated depends on the following:

- ABO/Rh Type
- Intended Use (Autologous, Directed)
- Eligible for Cross Over
- Emergency Released
- Biohazardous

**yy**

**Other Phenotypes** – Not used in the U.S.. Will always be “00”.

# ABO/Rh Label – Quadrant 3

## *Values for "xxyy"*

<b>Intended Use</b>	<b>O Pos</b>	<b>O Neg</b>	<b>A Pos</b>	<b>A Neg</b>	<b>B Pos</b>	<b>B Neg</b>	<b>AB Pos</b>	<b>AB Neg</b>
<b>Intended Use Not Specified</b>	5100	9500	6200	0600	7300	1700	8400	2800
<b>Autologous Use Only</b>	5300	9700	6400	0800	7500	1900	8600	3000
<b>Autologous Use Only/ Biohazardous</b>	5400	9800	6500	0900	7600	2000	8700	3100
<b>Directed, for crossover</b>	5000	9400	6100	0500	7200	1600	8300	2700
<b>Directed/Biohazardous</b>	4900	9300	6000	0400	7100	1500	8200	2600
<b>For Emergency Use Only</b>	4800	9200	5900	0300	7000	1400	8100	2500

# ABO/Rh Label – Quadrant 3

*O positive (Not Specified)*



5100

**O**

**Rh POSITIVE**

# ABO/Rh Label – Quadrant 3

*O positive (Autologous)*



5300

O  
Rh POSITIVE

**FOR AUTOLOGOUS  
USE ONLY**

# ABO/Rh Label – Quadrant 3

*O positive (Autologous/Biohazard)*



5400

O  
Rh POSITIVE



**BIOHAZARD  
FOR AUTOLOGOUS  
USE ONLY**

# ABO/Rh Label – Quadrant 3

*O positive (Directed, for Cross Over)*



5000

**O**

**Rh POSITIVE**

# ABO/Rh Label – Quadrant 3

*O positive (Directed/Biohazard)*



4900

O  
Rh POSITIVE



**BIOHAZARD  
FOR DESIGNATED  
RECIPIENT ONLY**

# ABO/Rh Label – Quadrant 3

*O positive (Emergency Release)*



4800

O  
Rh POSITIVE

**FOR EMERGENCY  
USE ONLY**



# Expiration Date/Time

## Quadrant 4

*>cyyjjjhhmm*

**>**

**Data identifier**-Tells the computer that this is an expiration date (only appears when scanned).

**cyy**

**Century and year**

**jjj**

**Julian date** (day of the year 000-365)

# Expiration Date/Time Quadrant 4

*> cyyjjj hhmm*

**hh**

**Expiration Time (Hours)- 00-23**

**mm**

**Expiration Time (Minutes)-00-60**

**jjj**

**Julian date (day of the year  
000-365)**

# Expiration Date/Time Quadrant 4



0080372359

**06 FEB 2008**

**Expiration  
Date**

# 0080372359

- ◆ The eye readable part of the label can also appear as:

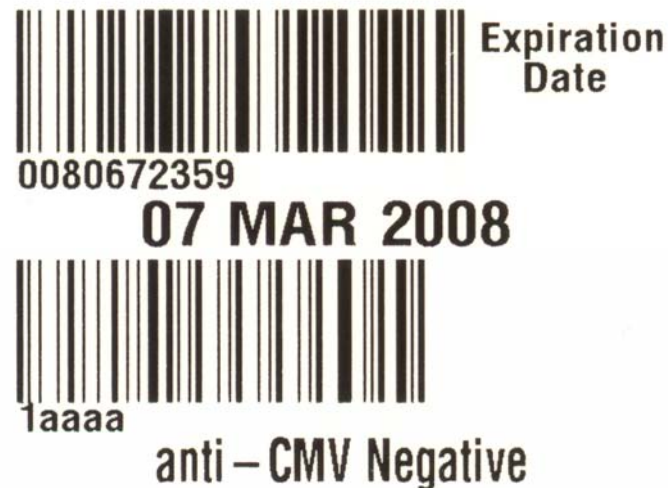
**06 FEB 2008 23:59**

- \*Note: The expiration time may not appear on the eye-readable part if the product expiration is day-dependent and not time-dependent.
- ◆ The eye readable expiration date/time can be used for manual recording.
- ◆ Manual entry into computer systems will vary depending upon the system.
- ◆ Scanning the information will be interpreted differently by computer systems.

# Special Label – Quadrant 4

## ◆ CMV Negative

- Will appear below the expiration date



- Sickle Cell Negative, RBC Antibody ID Results and other special labels will NOT appear in this section.

# Implementation Steps for Non-Computerized Facilities

- ◆ **Inform your administration about ISBT**
- ◆ **Revise forms for**
  - 13 digit unit number
  - 8 digit product code
- ◆ **Train nursing staff on labeling changes**
  - Location of labeling items
  - Importance of recording all unit # & product code digits

# Implementation Steps for Non-Computerized Facilities

- ◆ **Inform all staff who work in blood bank about ISBT labeling**
  - Location of labeling items
  - Importance of recording all 13 digits of unit number
  - Importance of recording all 8 digits of product code
- ◆ **Register with ICCBBA**
  - If you modify any products, including platelet pooling

# Implementation Steps for Computerized Facilities

- ◆ All steps required for non-computerized facilities
- ◆ Verify that scanners can read both ISBT and Codabar
- ◆ Verify that other equipment can read ISBT labels on tubes
- ◆ Validate software upgrades that include ISBT



# Implementation Steps for Computerized Facilities

- ◆ Obtain lists of ISBT product codes from blood suppliers
- ◆ Enter (or assure entrance of) ISBT product codes into computer
- ◆ Register with ICCBBA
  - If you modify any products, including platelet pooling
- ◆ Licensed facilities
  - Send in labels to FDA with form 2567 for approval
  - Send in any labeling variances

# FOR MORE INFORMATION

- ◆ Go to [www.thebloodcenter.org](http://www.thebloodcenter.org) and click "ISBT Info".
- ◆ Go to [www.iccbaa.org](http://www.iccbaa.org).
- ◆ Go to [www.aabb.org](http://www.aabb.org).

# FOR MORE INFORMATION

## Contact the following at The Blood Center:

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