Implementing ISBT-128

Beryl Laird
The Blood Center
New Orleans, La.

History of ISBT

- International Society of Blood Transfusion (ISBT):
  - Formed a Working Party on Automation and Data Processing
    - Selected Code 128 for blood labeling (early 90's)

History of ISBT

- Working Party became International Council on Commonality in Blood Banking (ICCBBA)
  - Charges
    - Introduce ISBT-128
    - Maintain the code internationally
    - Manage registration of facilities
    - Provide information for implementation

History of ISBT

- In 1997 AABB introduced ISBT in 18th Edition of Standards
- In 2000 the FDA recognized ISBT-128 as a standard for uniform labeling

ISBT-128 Timelines

- AABB has stated that:
  - facilities must have a written implementation plan to convert to ISBT 128 by **November 1, 2006**
  - Facilities must implement ISBT 128 by **May 1, 2008**

What Are the Benefits of ISBT 128 over Codabar?

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

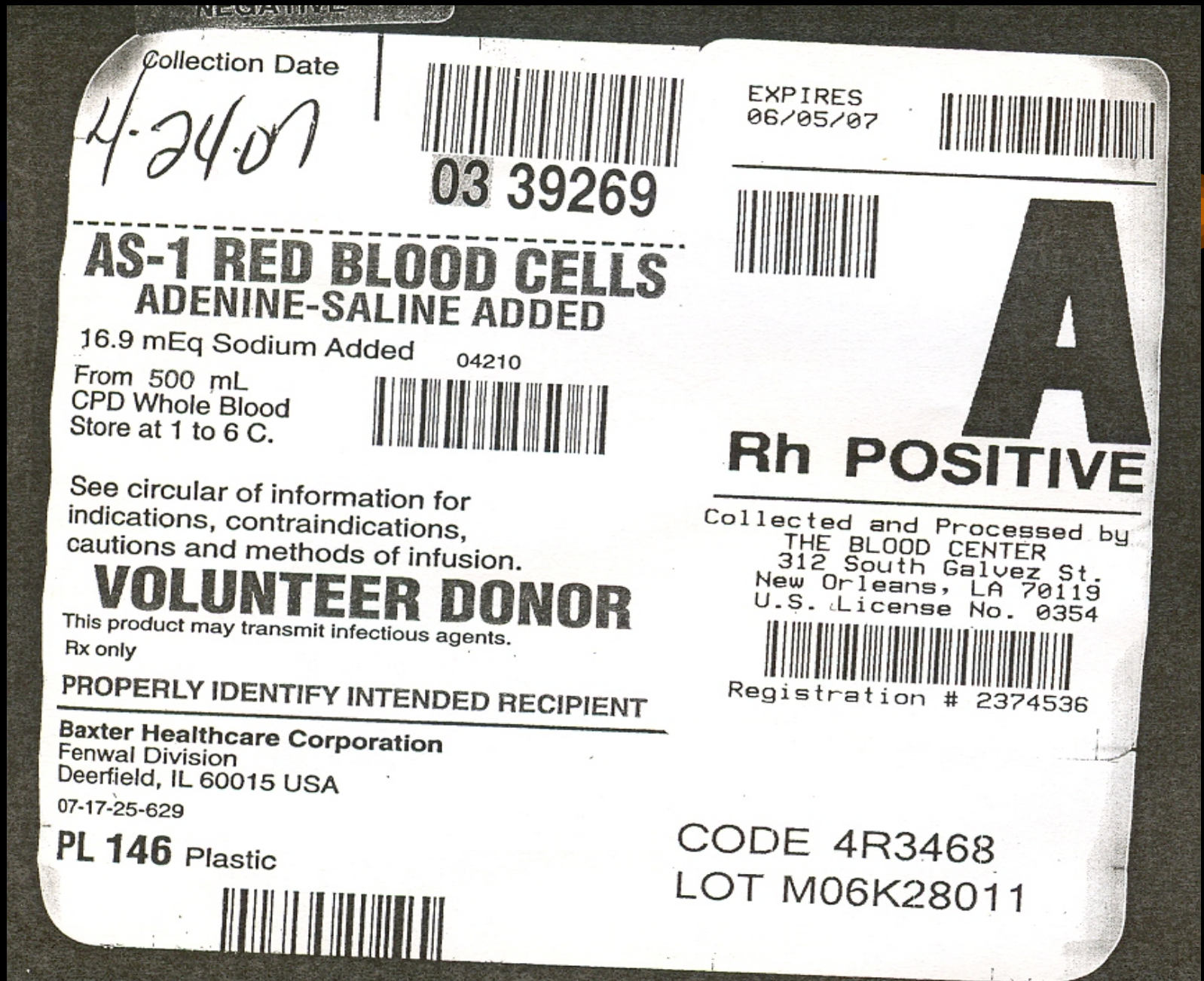
What Are the Benefits of ISBT 128 over Codabar?

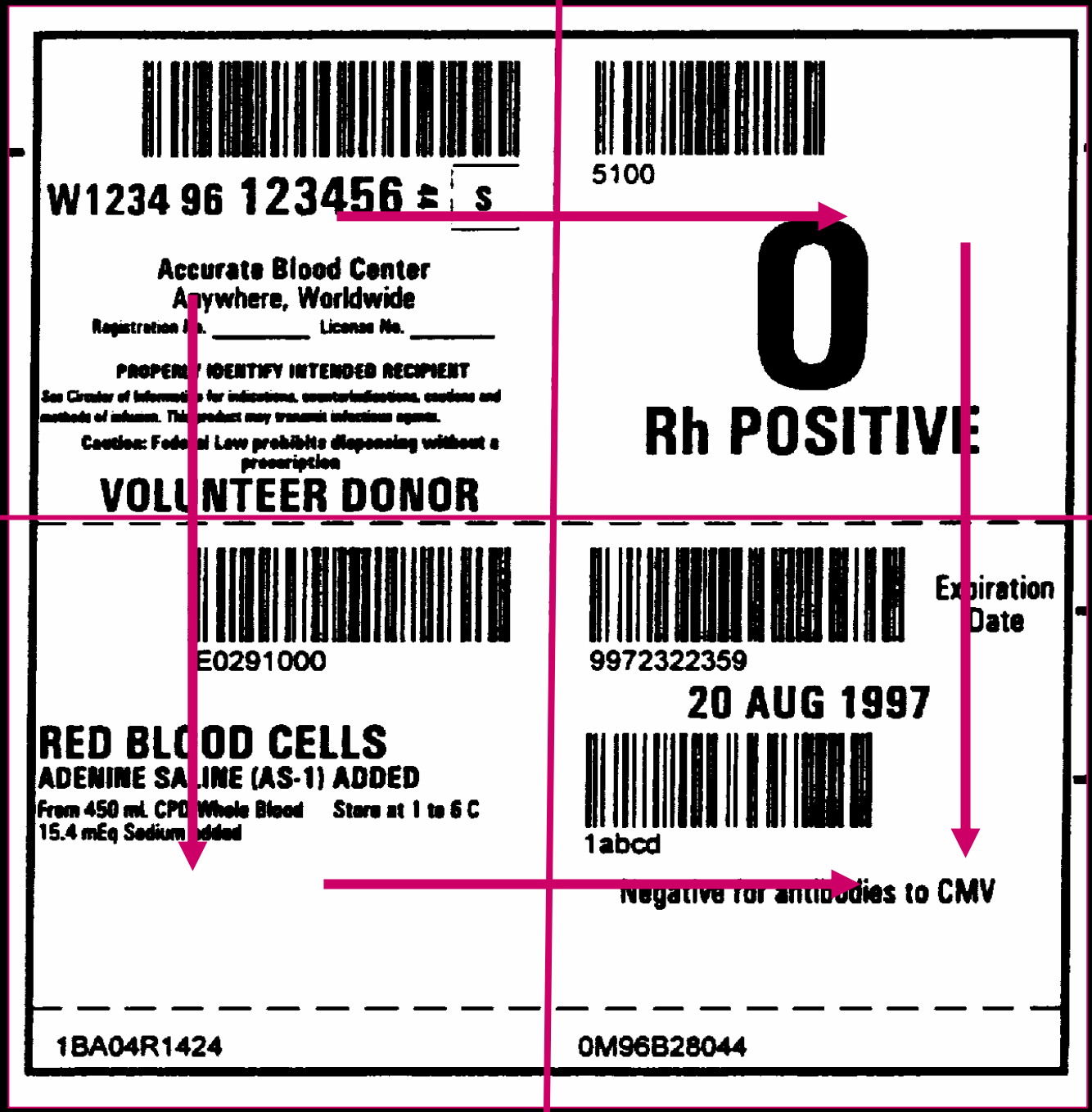
- Better accuracy
  - Codabar can have reproducible barcode misreads
  - ISBT-128 has
    - check digit built into the barcode
    - 3 self-checking features/characters

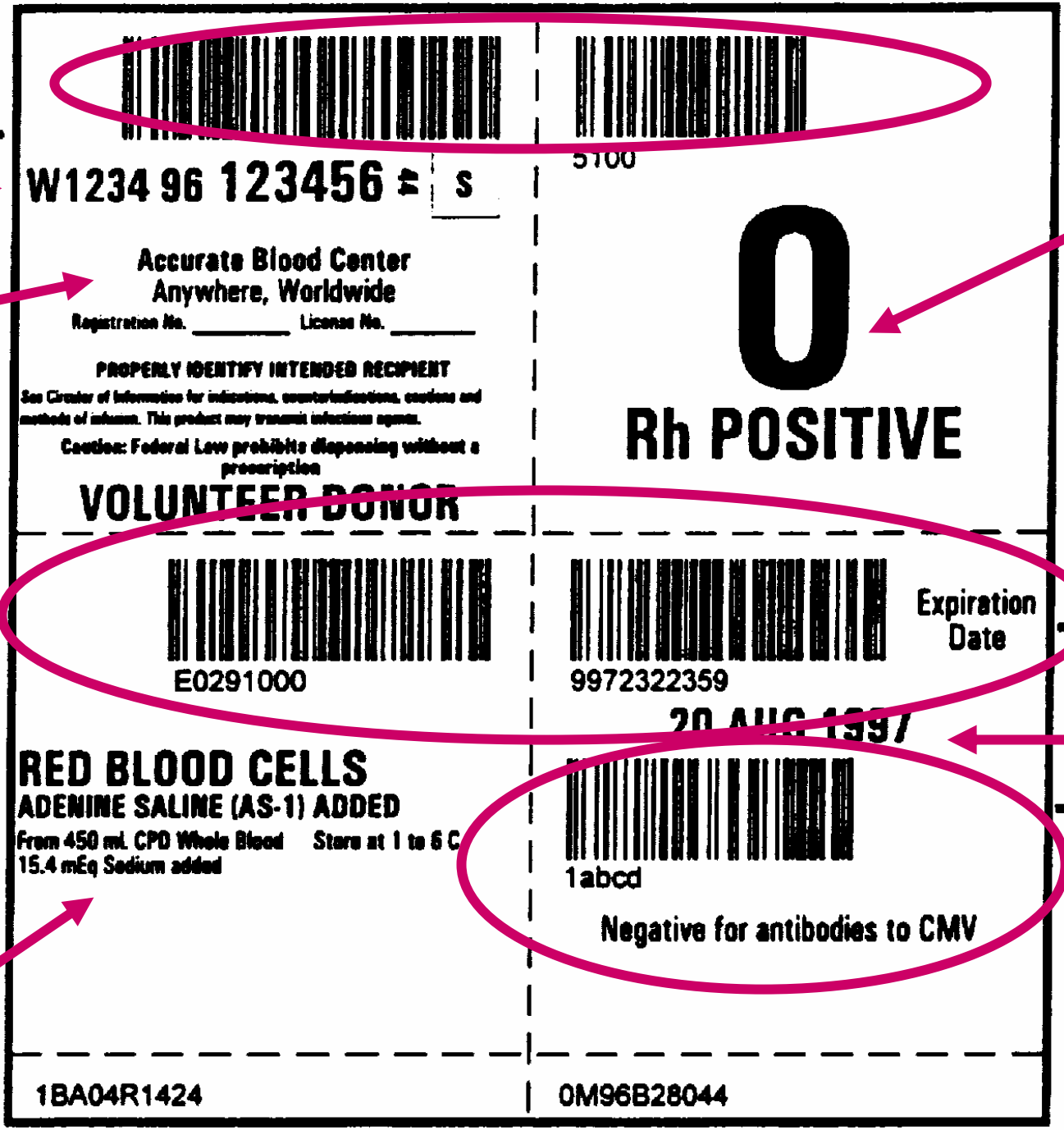
What Are the Benefits of ISBT 128 over Codabar?

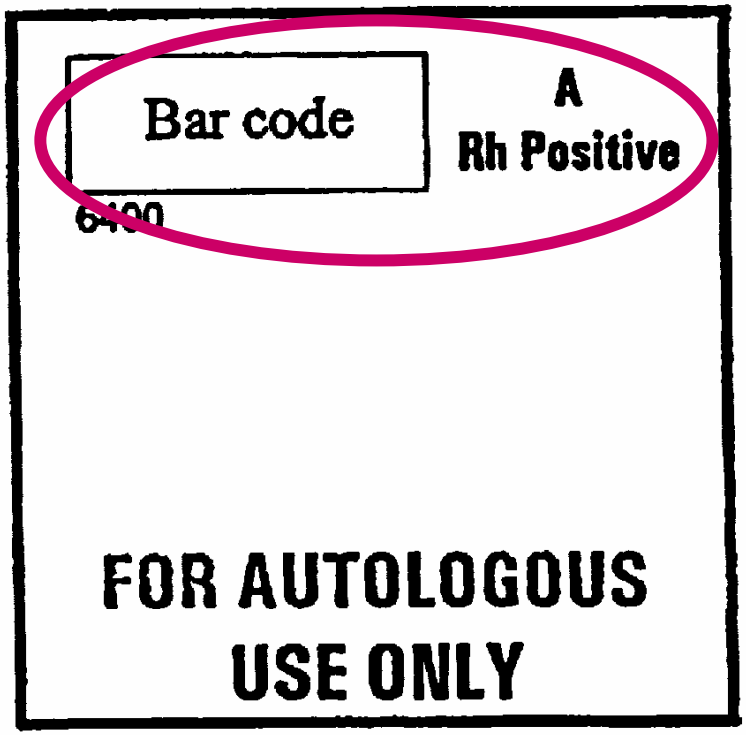
- Better traceability – Unit ID includes
  - Facility identification
  - Year of donation
  - Donation sequence number
- Allows concantination

Current Codabar Labeling

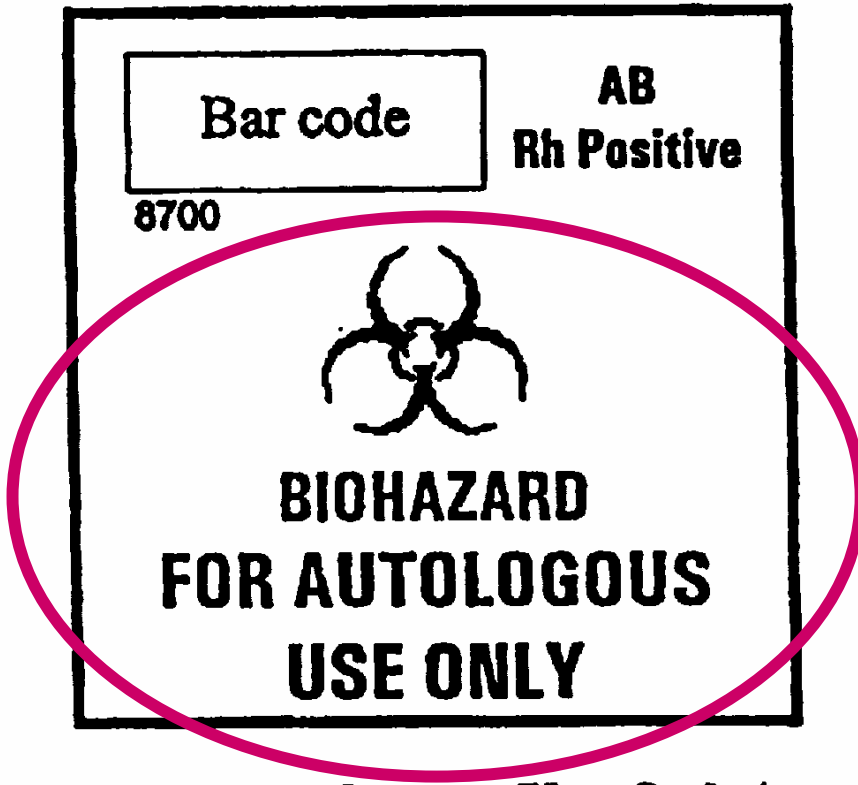



W1234 96 123456 s
5100
Accurate Blood Center
Anywhere, Worldwide
Registration No. _____ License No. _____
PROPERLY IDENTIFY INTENDED RECIPIENT
See Circular of Information for indications, contraindications, cautions and methods of infusion. This product may transmit infectious agents.
Caution: Federal Law prohibits dispensing without a prescription
VOLUNTEER DONOR
O
Rh POSITIVE
E0291000
9972322359
Expiration Date
20 AUG 1997
RED BLOOD CELLS
ADENINE SALINE (AS-1) ADDED
From 450 mL CPD Whole Blood
15.4 mEq Sodium Added
Store at 1 to 6 C
1abcd
Negative for antibodies to CMV
1BA04R1424
0M96B28044

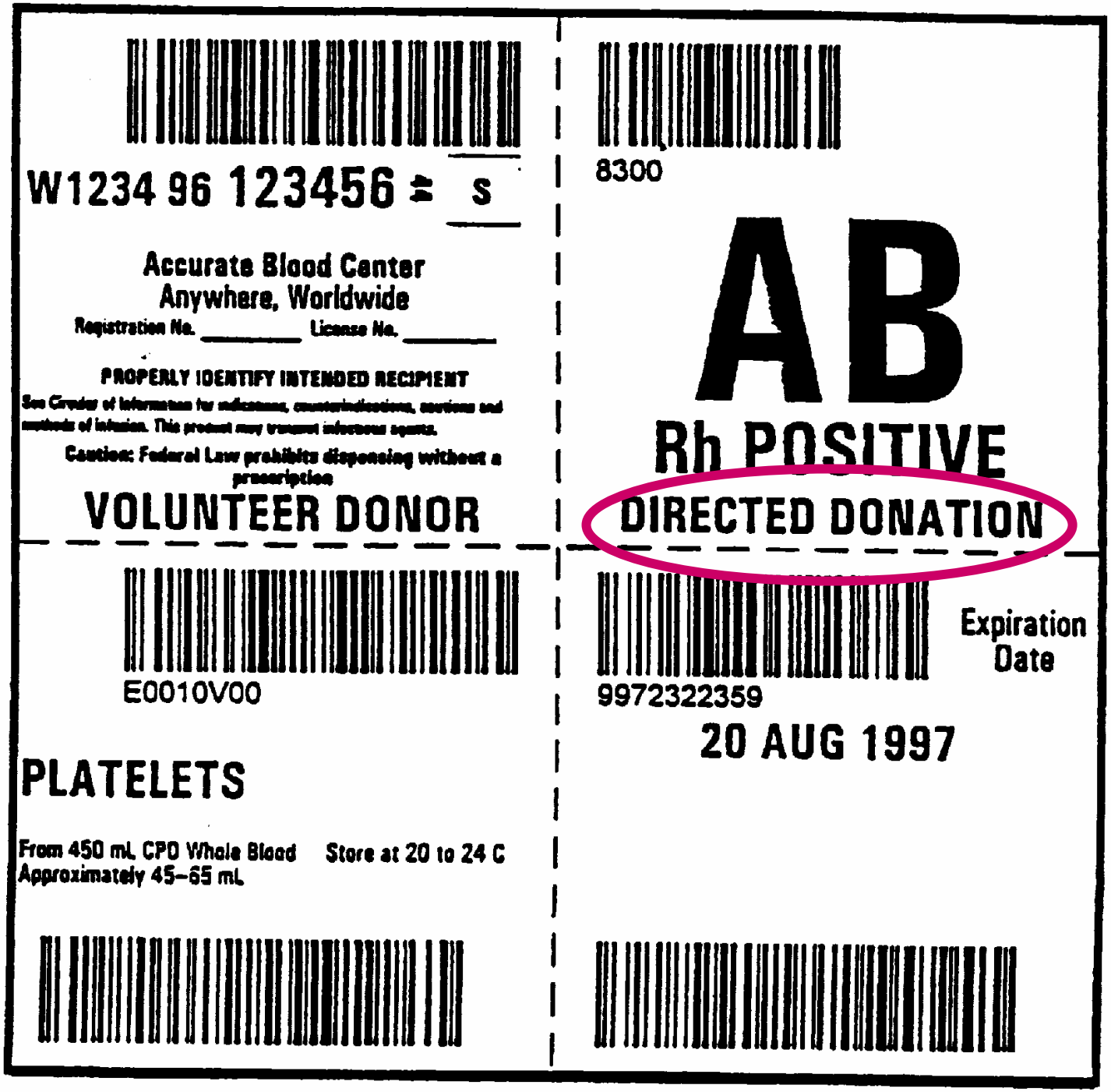

W1234 96 123456
S
5100
Accurate Blood Center
Anywhere, Worldwide
Registration No. _____ License No. _____
PROPERLY IDENTIFY INTENDED RECIPIENT
See Circular of Information for indications, contraindications, cautions and methods of infusion. This product may transmit infectious agents.
Caution: Federal Law prohibits dispensing without a prescription
VOLUNTEER DONOR
O
Rh POSITIVE
E0291000
9972322359
Expiration Date
20 AUG 1997
RED BLOOD CELLS
ADENINE SALINE (AS-1) ADDED
From 450 mL CPD Whole Blood
Store at 1 to 6 C
15.4 mEq Sodium added
1abcd
Negative for antibodies to CMV
1BA04R1424
0M96B28044



For Autologous Use Only



For Autologous Use Only/
Biohazardous



W1234 96 123456 ≐ S

Accurate Blood Center
Anywhere, Worldwide

Registration No. _____ License No. _____

PROPERLY IDENTIFY INTENDED RECIPIENT

See Circular of Information for indications, contraindications, warnings and methods of infusion. This product may transmit infectious agents.

Caution: Federal Law prohibits dispensing without a prescription

VOLUNTEER DONOR

8300

AB

Rh POSITIVE

DIRECTED DONATION

E0010V00

PLATELETS

From 450 mL CPD Whole Blood Store at 20 to 24 C
Approximately 45–65 mL

9972322359

Expiration Date

20 AUG 1997

Donation Identification Number

=α	Data Identifier (incorporates first letter of Country/Center code)
ppppp	Uniquely identify collection facility

Donation Identification Number

=α	Data Identifier (incorporates first letter of Country/Center code)
ppppp	Uniquely identify collection facility

- *yy* Year of Collection
- *nnnnnn* Donation sequence number
- *ff* Flag characters or icon
  (00 default in US*)
- *K* Modulo 36, 37 check character for manual data entry

(*Flag characters used in Europe for “Bag 1 of 2” etc. Currently not used in US)

W0671 07 123456 00 S

- US letters: W or K
- Four digit center code (center may have more than one)
- Year

W0671 07 123456 00 S

- Donation sequence number
- Flags (number or icon) (*Flag characters used in Europe for “Bag 1 of 2” etc. Currently defaults to 00 in US)
- Check digit (for manual data entry)

- US letters: W or K
- Four digit center code (center may have more than one)
- Year
- Donation sequence number
- Flags (number or icon)
- Check digit

Expiration Date

- ***=>cyyjjj***

=>	Data identifier
cyy	Century and year
jjj	Julian date (day of year)

Expiration Date

=>	Data identifier
cyy	Century and year
jjj	Julian date (day of year)

Expiration Date & Time

- ***&>cyyjjjhhmm***

&>	Data identifier for alternative format that includes time
cyy	Century and year
hhmm	Time represented as hours and minutes (24-hour clock)

Expiration Date: Eye Readable

20 August 2000

15 July 2000 1515

ISBT 128 *Product Code System*

- Describes products in terms of defined 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

ISBT 128 *Product Code*

αooootds

- Semi-structured, eight character code

αoooo	product description code
t	type of donation
ds	divisions/splits

Product Description Codes

- E0001-zzzzz
- A0000-Dzzzz reserved for internal use; not defined internationally
- Unstructured - no specific meaning associated with the individual characters

Type of Donation

- Sixth position allows for donation type

E0167100

Autologous RED BLOOD CELLS/CPD/from 500 mL whole blood/refrig

Divisions/Splits

E0167000

RED BLOOD CELLS/CPD/from 500 mL whole blood/refrig

E01670A0

RED BLOOD CELLS/CPD/from 500 mL whole blood/refrig/Divided (closed system)

E01670Aa

RED BLOOD CELLS/CPD/from 500 mL whole blood/refrig/Divided (closed system)

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

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

Implementation Steps for Non-Computerized Facilities

- 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

Implementation Steps for Computerized Facilities

- Validate software upgrades that include ISBT
- Obtain lists of ISBT product codes from blood suppliers
- Enter (or assure entrance of) ISBT product codes into computer

Implementation Steps for Computerized Facilities

- Register with ICCBBA
  - If you modify any products, including platelet pooling

Implementation Steps for Computerized Facilities

- Licensed facilities
  - Send in labels to FDA with form 2567 for approval
  - Send in labeling variance (see handout)

Reason for Variance

Codabar

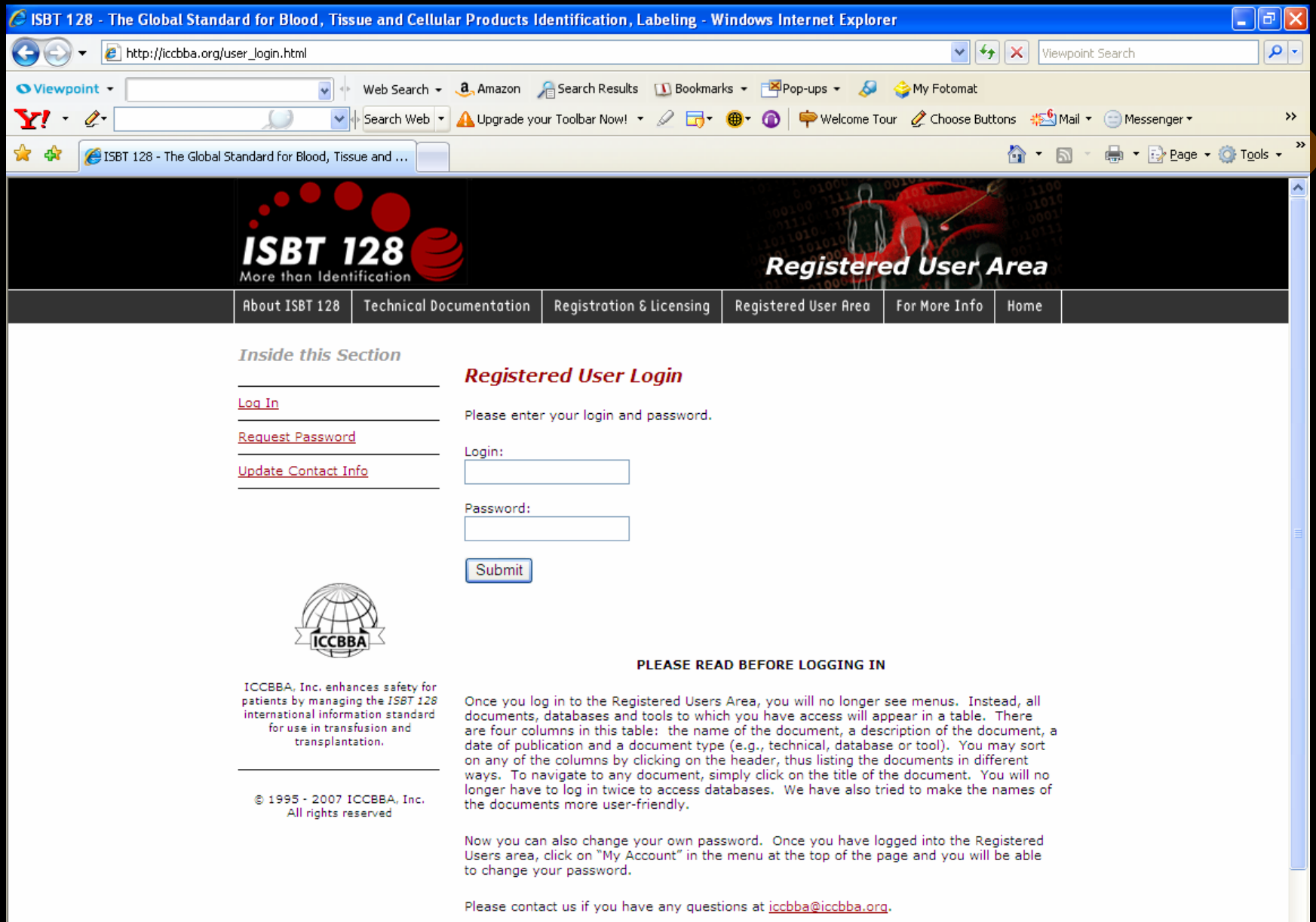
RED BLOOD CELLS
DEGLYCEROLIZED

ISBT 128

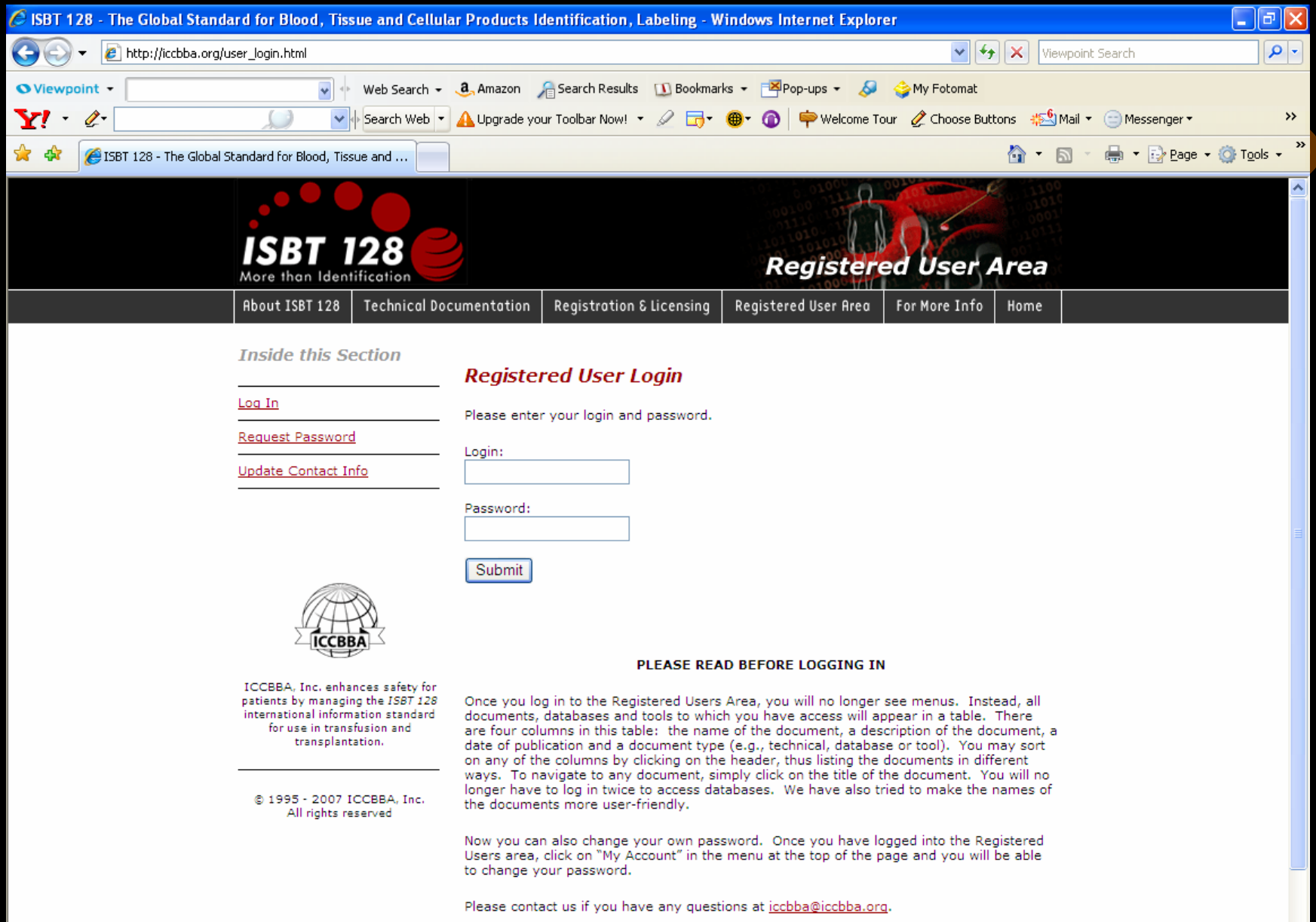
DEGLYCEROLIZED
RED BLOOD CELLS

ICCBBA Website www.iccbba.org

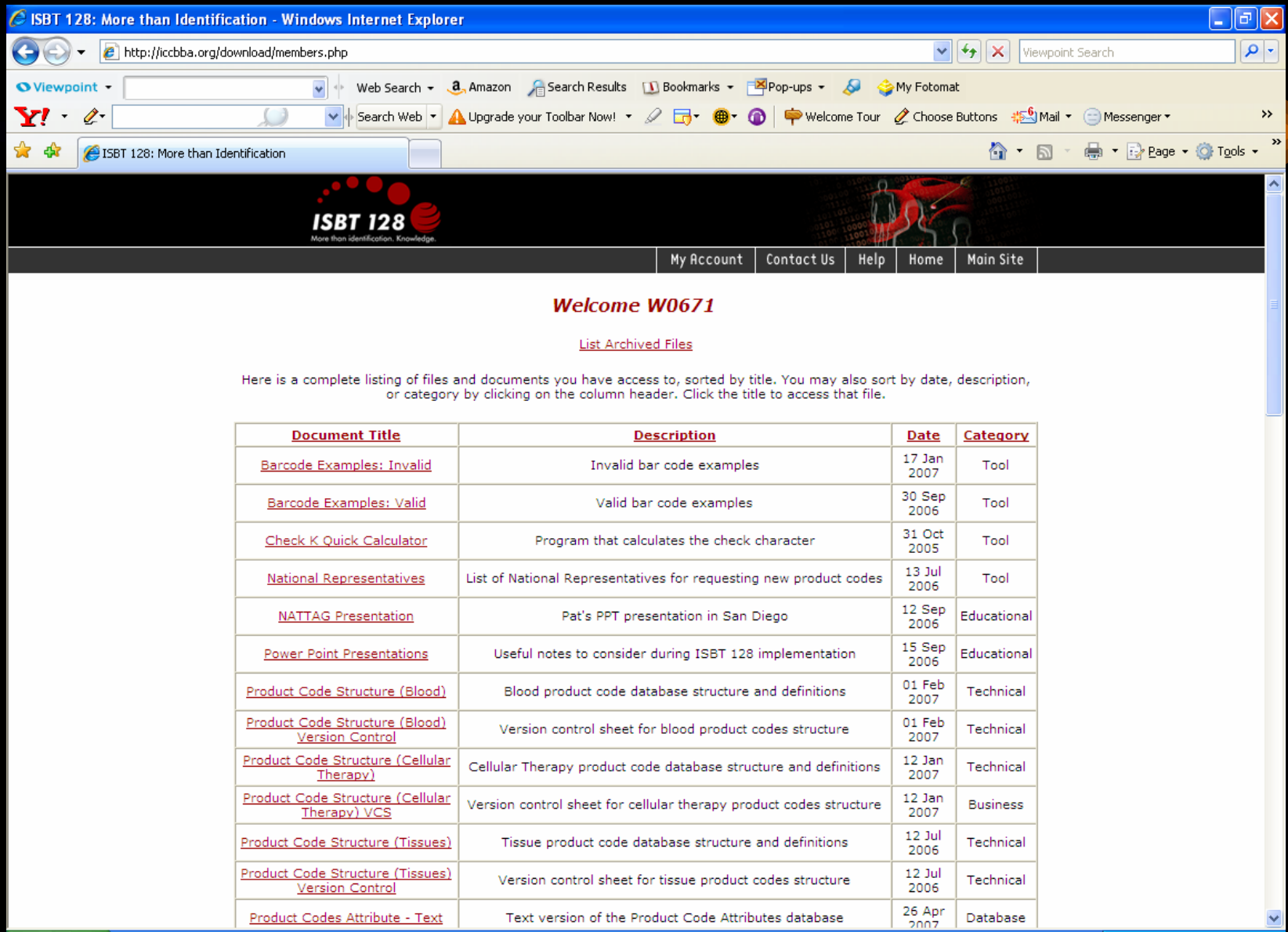
ICCBBA Website: Licensed User



ICCBBA Website: Licensed User

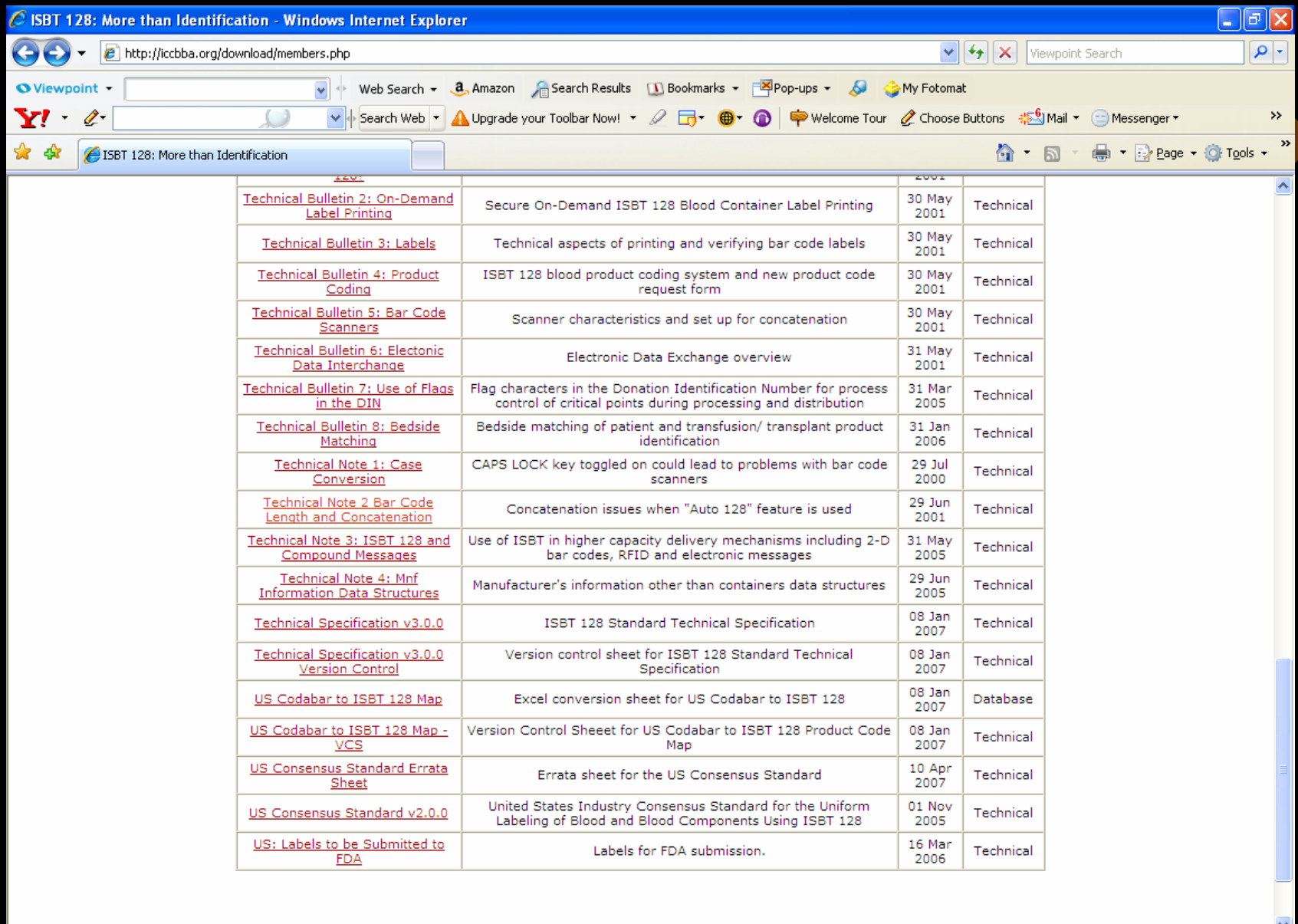


ICCBBA Website: Files & Documents



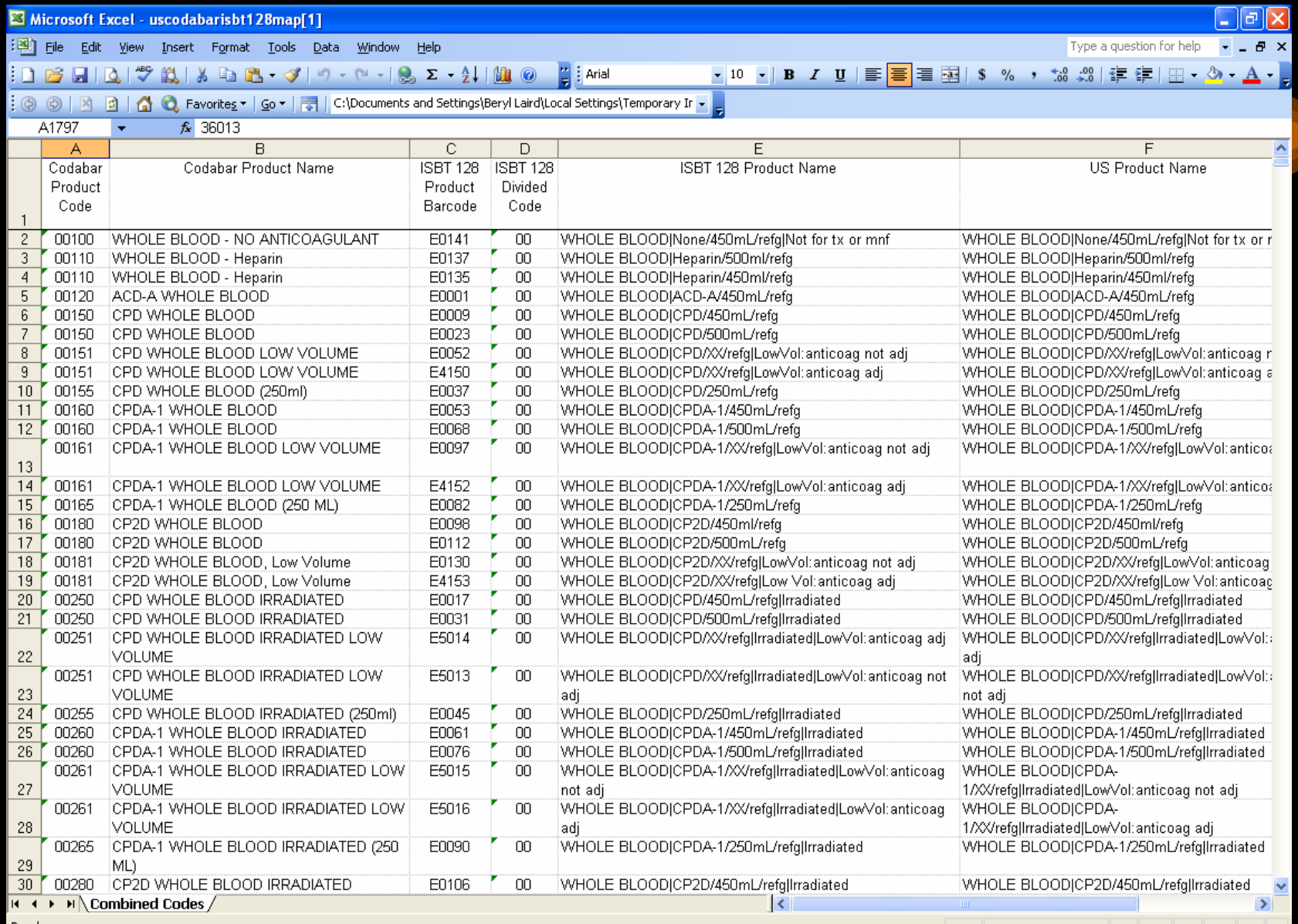
Document Title	Description	Date	Category
Barcode Examples: Invalid	Invalid bar code examples	17 Jan 2007	Tool
Barcode Examples: Valid	Valid bar code examples	30 Sep 2006	Tool
Check K Quick Calculator	Program that calculates the check character	31 Oct 2005	Tool
National Representatives	List of National Representatives for requesting new product codes	13 Jul 2006	Tool
NATTAG Presentation	Pat's PPT presentation in San Diego	12 Sep 2006	Educational
Power Point Presentations	Useful notes to consider during ISBT 128 implementation	15 Sep 2006	Educational
Product Code Structure (Blood)	Blood product code database structure and definitions	01 Feb 2007	Technical
Product Code Structure (Blood) Version Control	Version control sheet for blood product codes structure	01 Feb 2007	Technical
Product Code Structure (Cellular Therapy)	Cellular Therapy product code database structure and definitions	12 Jan 2007	Technical
Product Code Structure (Cellular Therapy) VCS	Version control sheet for cellular therapy product codes structure	12 Jan 2007	Business
Product Code Structure (Tissues)	Tissue product code database structure and definitions	12 Jul 2006	Technical
Product Code Structure (Tissues) Version Control	Version control sheet for tissue product codes structure	12 Jul 2006	Technical
Product Codes Attribute - Text	Text version of the Product Code Attributes database	26 Apr 2007	Database

ICCBBA Website: Crosswalk Location



Technical Bulletin 2: On-Demand Label Printing	Secure On-Demand ISBT 128 Blood Container Label Printing	30 May 2001	Technical
Technical Bulletin 3: Labels	Technical aspects of printing and verifying bar code labels	30 May 2001	Technical
Technical Bulletin 4: Product Coding	ISBT 128 blood product coding system and new product code request form	30 May 2001	Technical
Technical Bulletin 5: Bar Code Scanners	Scanner characteristics and set up for concatenation	30 May 2001	Technical
Technical Bulletin 6: Electonic Data Interchange	Electronic Data Exchange overview	31 May 2001	Technical
Technical Bulletin 7: Use of Flags in the DIN	Flag characters in the Donation Identification Number for process control of critical points during processing and distribution	31 Mar 2005	Technical
Technical Bulletin 8: Bedside Matching	Bedside matching of patient and transfusion/ transplant product identification	31 Jan 2006	Technical
Technical Note 1: Case Conversion	CAPS LOCK key toggled on could lead to problems with bar code scanners	29 Jul 2000	Technical
Technical Note 2 Bar Code Length and Concatenation	Concatenation issues when "Auto 128" feature is used	29 Jun 2001	Technical
Technical Note 3: ISBT 128 and Compound Messages	Use of ISBT in higher capacity delivery mechanisms including 2-D bar codes, RFID and electronic messages	31 May 2005	Technical
Technical Note 4: Mnf Information Data Structures	Manufacturer's information other than containers data structures	29 Jun 2005	Technical
Technical Specification v3.0.0	ISBT 128 Standard Technical Specification	08 Jan 2007	Technical
Technical Specification v3.0.0 Version Control	Version control sheet for ISBT 128 Standard Technical Specification	08 Jan 2007	Technical
US Codabar to ISBT 128 Map	Excel conversion sheet for US Codabar to ISBT 128	08 Jan 2007	Database
US Codabar to ISBT 128 Map - VCS	Version Control Sheeet for US Codabar to ISBT 128 Product Code Map	08 Jan 2007	Technical
US Consensus Standard Errata Sheet	Errata sheet for the US Consensus Standard	10 Apr 2007	Technical
US Consensus Standard v2.0.0	United States Industry Consensus Standard for the Uniform Labeling of Blood and Blood Components Using ISBT 128	01 Nov 2005	Technical
US: Labels to be Submitted to FDA	Labels for FDA submission.	16 Mar 2006	Technical

ICCBBA Website: Crosswalk



Microsoft Excel - uscodabarisbt128map[1]

File Edit View Insert Format Tools Data Window Help

Type a question for help

Arial 10

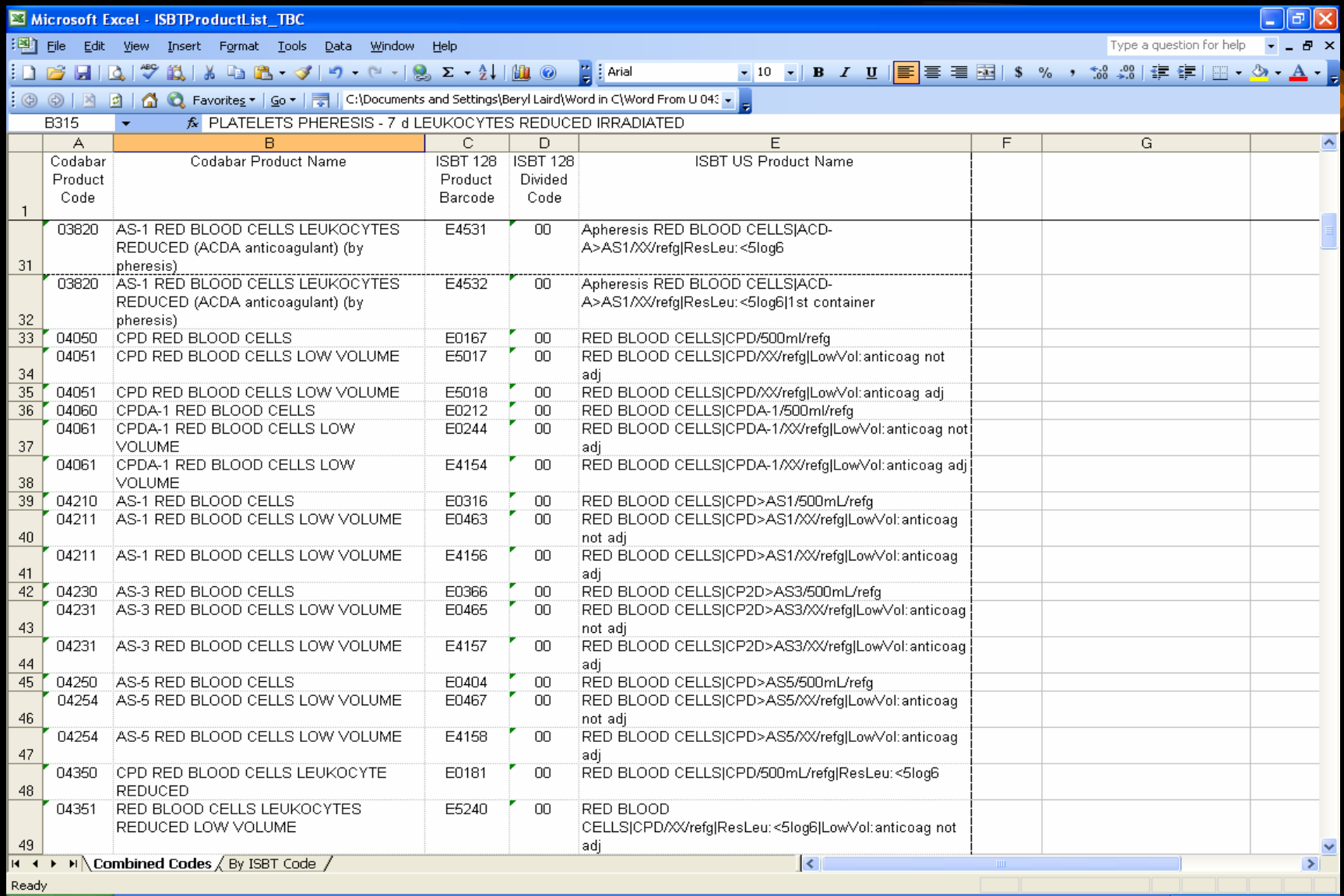
Favorites Go C:\Documents and Settings\Beryl Laird\Local Settings\Temporary Ir

A1797 36013

	A	B	C	D	E	F
1	Codabar Product Code	Codabar Product Name	ISBT 128 Product Barcode	ISBT 128 Divided Code	ISBT 128 Product Name	US Product Name
2	00100	WHOLE BLOOD - NO ANTICOAGULANT	E0141	00	WHOLE BLOOD|None/450mL/refg|Not for tx or mnf	WHOLE BLOOD|None/450mL/refg|Not for tx or r
3	00110	WHOLE BLOOD - Heparin	E0137	00	WHOLE BLOOD|Heparin/500ml/refg	WHOLE BLOOD|Heparin/500ml/refg
4	00110	WHOLE BLOOD - Heparin	E0135	00	WHOLE BLOOD|Heparin/450ml/refg	WHOLE BLOOD|Heparin/450ml/refg
5	00120	ACD-A WHOLE BLOOD	E0001	00	WHOLE BLOOD|ACD-A/450mL/refg	WHOLE BLOOD|ACD-A/450mL/refg
6	00150	CPD WHOLE BLOOD	E0009	00	WHOLE BLOOD|CPD/450mL/refg	WHOLE BLOOD|CPD/450mL/refg
7	00150	CPD WHOLE BLOOD	E0023	00	WHOLE BLOOD|CPD/500mL/refg	WHOLE BLOOD|CPD/500mL/refg
8	00151	CPD WHOLE BLOOD LOW VOLUME	E0052	00	WHOLE BLOOD|CPD/XX/refg|LowVol:anticoag not adj	WHOLE BLOOD|CPD/XX/refg|LowVol:anticoag r
9	00151	CPD WHOLE BLOOD LOW VOLUME	E4150	00	WHOLE BLOOD|CPD/XX/refg|LowVol:anticoag adj	WHOLE BLOOD|CPD/XX/refg|LowVol:anticoag a
10	00155	CPD WHOLE BLOOD (250ml)	E0037	00	WHOLE BLOOD|CPD/250mL/refg	WHOLE BLOOD|CPD/250mL/refg
11	00160	CPDA-1 WHOLE BLOOD	E0053	00	WHOLE BLOOD|CPDA-1/450mL/refg	WHOLE BLOOD|CPDA-1/450mL/refg
12	00160	CPDA-1 WHOLE BLOOD	E0068	00	WHOLE BLOOD|CPDA-1/500mL/refg	WHOLE BLOOD|CPDA-1/500mL/refg
13	00161	CPDA-1 WHOLE BLOOD LOW VOLUME	E0097	00	WHOLE BLOOD|CPDA-1/XX/refg|LowVol:anticoag not adj	WHOLE BLOOD|CPDA-1/XX/refg|LowVol:anticoa
14	00161	CPDA-1 WHOLE BLOOD LOW VOLUME	E4152	00	WHOLE BLOOD|CPDA-1/XX/refg|LowVol:anticoag adj	WHOLE BLOOD|CPDA-1/XX/refg|LowVol:anticoa
15	00165	CPDA-1 WHOLE BLOOD (250 ML)	E0082	00	WHOLE BLOOD|CPDA-1/250mL/refg	WHOLE BLOOD|CPDA-1/250mL/refg
16	00180	CP2D WHOLE BLOOD	E0098	00	WHOLE BLOOD|CP2D/450ml/refg	WHOLE BLOOD|CP2D/450ml/refg
17	00180	CP2D WHOLE BLOOD	E0112	00	WHOLE BLOOD|CP2D/500mL/refg	WHOLE BLOOD|CP2D/500mL/refg
18	00181	CP2D WHOLE BLOOD, Low Volume	E0130	00	WHOLE BLOOD|CP2D/XX/refg|LowVol:anticoag not adj	WHOLE BLOOD|CP2D/XX/refg|LowVol:anticoag
19	00181	CP2D WHOLE BLOOD, Low Volume	E4153	00	WHOLE BLOOD|CP2D/XX/refg|Low Vol:anticoag adj	WHOLE BLOOD|CP2D/XX/refg|Low Vol:anticoag
20	00250	CPD WHOLE BLOOD IRRADIATED	E0017	00	WHOLE BLOOD|CPD/450mL/refg|Irradiated	WHOLE BLOOD|CPD/450mL/refg|Irradiated
21	00250	CPD WHOLE BLOOD IRRADIATED	E0031	00	WHOLE BLOOD|CPD/500mL/refg|Irradiated	WHOLE BLOOD|CPD/500mL/refg|Irradiated
22	00251	CPD WHOLE BLOOD IRRADIATED LOW VOLUME	E5014	00	WHOLE BLOOD|CPD/XX/refg|Irradiated|LowVol:anticoag adj	WHOLE BLOOD|CPD/XX/refg|Irradiated|LowVol:anticoag adj
23	00251	CPD WHOLE BLOOD IRRADIATED LOW VOLUME	E5013	00	WHOLE BLOOD|CPD/XX/refg|Irradiated|LowVol:anticoag not adj	WHOLE BLOOD|CPD/XX/refg|Irradiated|LowVol:anticoag not adj
24	00255	CPD WHOLE BLOOD IRRADIATED (250ml)	E0045	00	WHOLE BLOOD|CPD/250mL/refg|Irradiated	WHOLE BLOOD|CPD/250mL/refg|Irradiated
25	00260	CPDA-1 WHOLE BLOOD IRRADIATED	E0061	00	WHOLE BLOOD|CPDA-1/450mL/refg|Irradiated	WHOLE BLOOD|CPDA-1/450mL/refg|Irradiated
26	00260	CPDA-1 WHOLE BLOOD IRRADIATED	E0076	00	WHOLE BLOOD|CPDA-1/500mL/refg|Irradiated	WHOLE BLOOD|CPDA-1/500mL/refg|Irradiated
27	00261	CPDA-1 WHOLE BLOOD IRRADIATED LOW VOLUME	E5015	00	WHOLE BLOOD|CPDA-1/XX/refg|Irradiated|LowVol:anticoag not adj	WHOLE BLOOD|CPDA-1/XX/refg|Irradiated|LowVol:anticoag not adj
28	00261	CPDA-1 WHOLE BLOOD IRRADIATED LOW VOLUME	E5016	00	WHOLE BLOOD|CPDA-1/XX/refg|Irradiated|LowVol:anticoag adj	WHOLE BLOOD|CPDA-1/XX/refg|Irradiated|LowVol:anticoag adj
29	00265	CPDA-1 WHOLE BLOOD IRRADIATED (250 ML)	E0090	00	WHOLE BLOOD|CPDA-1/250mL/refg|Irradiated	WHOLE BLOOD|CPDA-1/250mL/refg|Irradiated
30	00280	CP2D WHOLE BLOOD IRRADIATED	E0106	00	WHOLE BLOOD|CP2D/450mL/refg|Irradiated	WHOLE BLOOD|CP2D/450mL/refg|Irradiated

Combined Codes

The Blood Center's ISBT Product List



Microsoft Excel - ISBTProductList_TBC

File Edit View Insert Format Tools Data Window Help

Type a question for help

Arial 10

Favorites Go C:\Documents and Settings\Beryl Laird\Word in C\Word From U 043

B315 PLATELETS PHERESIS - 7 d LEUKOCYTES REDUCED IRRADIATED

	A	B	C	D	E	F	G
1	Codabar Product Code	Codabar Product Name	ISBT 128 Product Barcode	ISBT 128 Divided Code	ISBT US Product Name		
31	03820	AS-1 RED BLOOD CELLS LEUKOCYTES REDUCED (ACDA anticoagulant) (by pheresis)	E4531	00	Apheresis RED BLOOD CELLS|ACD-A>AS1/XX/refg|ResLeu:<5log6		
32	03820	AS-1 RED BLOOD CELLS LEUKOCYTES REDUCED (ACDA anticoagulant) (by pheresis)	E4532	00	Apheresis RED BLOOD CELLS|ACD-A>AS1/XX/refg|ResLeu:<5log6|1st container		
33	04050	CPD RED BLOOD CELLS	E0167	00	RED BLOOD CELLS|CPD/500ml/refg		
34	04051	CPD RED BLOOD CELLS LOW VOLUME	E5017	00	RED BLOOD CELLS|CPD/XX/refg|LowVol:anticoag not adj		
35	04051	CPD RED BLOOD CELLS LOW VOLUME	E5018	00	RED BLOOD CELLS|CPD/XX/refg|LowVol:anticoag adj		
36	04060	CPDA-1 RED BLOOD CELLS	E0212	00	RED BLOOD CELLS|CPDA-1/500ml/refg		
37	04061	CPDA-1 RED BLOOD CELLS LOW VOLUME	E0244	00	RED BLOOD CELLS|CPDA-1/XX/refg|LowVol:anticoag not adj		
38	04061	CPDA-1 RED BLOOD CELLS LOW VOLUME	E4154	00	RED BLOOD CELLS|CPDA-1/XX/refg|LowVol:anticoag adj		
39	04210	AS-1 RED BLOOD CELLS	E0316	00	RED BLOOD CELLS|CPD>AS1/500mL/refg		
40	04211	AS-1 RED BLOOD CELLS LOW VOLUME	E0463	00	RED BLOOD CELLS|CPD>AS1/XX/refg|LowVol:anticoag not adj		
41	04211	AS-1 RED BLOOD CELLS LOW VOLUME	E4156	00	RED BLOOD CELLS|CPD>AS1/XX/refg|LowVol:anticoag adj		
42	04230	AS-3 RED BLOOD CELLS	E0366	00	RED BLOOD CELLS|CP2D>AS3/500mL/refg		
43	04231	AS-3 RED BLOOD CELLS LOW VOLUME	E0465	00	RED BLOOD CELLS|CP2D>AS3/XX/refg|LowVol:anticoag not adj		
44	04231	AS-3 RED BLOOD CELLS LOW VOLUME	E4157	00	RED BLOOD CELLS|CP2D>AS3/XX/refg|LowVol:anticoag adj		
45	04250	AS-5 RED BLOOD CELLS	E0404	00	RED BLOOD CELLS|CPD>AS5/500mL/refg		
46	04254	AS-5 RED BLOOD CELLS LOW VOLUME	E0467	00	RED BLOOD CELLS|CPD>AS5/XX/refg|LowVol:anticoag not adj		
47	04254	AS-5 RED BLOOD CELLS LOW VOLUME	E4158	00	RED BLOOD CELLS|CPD>AS5/XX/refg|LowVol:anticoag adj		
48	04350	CPD RED BLOOD CELLS LEUKOCYTE REDUCED	E0181	00	RED BLOOD CELLS|CPD/500mL/refg|ResLeu:<5log6		
49	04351	RED BLOOD CELLS LEUKOCYTES REDUCED LOW VOLUME	E5240	00	RED BLOOD CELLS|CPD/XX/refg|ResLeu:<5log6|LowVol:anticoag not adj		

Combined Codes | By ISBT Code

Ready