

CELLULAR THERAPY QUIZ

Correct answers and rationale

In January 2018, registered cellular therapy (CT) facilities were asked to participate in the quiz to determine the educational needs of the users regarding the appropriate selection of ISBT 128 Product Codes.

- 157 facilities completed the entire quiz
- 90 facilities completed portions of the quiz
- The 21 questions on the CT Quiz were divided into the following five categories:
 - User Information (#1-4)
 - Attribute Selection (#5-8)
 - Collection Type Selection (#9)
 - Division Code Selection (#10-11)
 - Product Description Code (PDC) Selection (#12-21)

The following slides refer to the knowledge-based questions (5-21) and provide rationales for the correct answer selection and why the incorrect answers were not appropriate.

Q5: Anticoagulant (citrate and/or heparin) may be included in a product description. There is an option to use “NS” (not specified) in place of the specific anticoagulant. It is appropriate to use “NS”:

Percentage of responses	Answer choices	Rationale
57.42%	When you are unsure of which anticoagulant is present	This answer is incorrect because staff preparing products must know, or be able to find out, what anticoagulant is present.
19.62%	When only a small amount of anticoagulant remains in the product because of processing (e.g., CD34 reduction or washing)	This is an acceptable answer because "NS" can be used in this situation. However, "None" is a better attribute selection for CD34 reduction or washing because it specifies that no significant amount of anticoagulant is present (see Section 3.2.1 of the ISBT 128 Standard Terminology).
9.57%	When you (the processing lab) believe that the anticoagulant need not be encoded	This is an acceptable answer only when there is no regulatory or accreditation requirement for the anticoagulant to be specified in the coding.
13.40%	Only when the product has been washed	This answer is incorrect because there are other situations where NS can be used. As indicated in option 2 above, "None" is a better attribute to use for a washed product.

Q6: The attribute “Filtered” should be used:

Percentage of responses	Answer Choices	Rationale
8.17%	When filters are used in the marrow harvest procedure to collect the product	This answer is incorrect because filtration that occurs during the harvesting of a marrow is assumed and should not be specified in the coding. See the note in the definition below.
2.88%	When it is intended that the marrow product be filtered at bedside	This answer is incorrect because product description coding should not include processes that are planned for the future. Coding should reflect a description of the product as it is at the time of labeling.
52.40%	When an independent filtration is performed on a marrow AFTER the collection process (e.g., in the laboratory using a 170 – 260 micron filter)	This answer is correct because it fits within the definition of "Filtered."
36.54%	Any time a product has been filtered	This answer is incorrect. The attribute “Filtered” should be used when an independent filtration is performed. See the note in the definition below. The attribute “Filtered” would not apply in the situations as noted for choice #1, marrow harvest procedure, and choice #2, filtering at bedside to include all CT products.

Terminology reference:

The ISBT 128 Standard Terminology states that "Filtered" is defined as: "Product after passage through a non-leukocyte reducing filter. [Note: The bone marrow harvest procedure includes a series of filters to obtain the collected product. This is not considered a separate manipulation step. The attribute "Filtered" should not be used. Select the attribute "Filtered" if an independent filtration is performed (e.g., filtered in the laboratory using a 170 - 260 micron filter)]."

Q7: The attribute “Buffy coat enriched” should be used:

Percentage of responses	Answer Choices	Rationale
23.92%	When plasma and red cells are reduced simultaneously	This answer is not the best choice because the definition does not specify if the plasma and red cell reductions happen simultaneously or sequentially.
3.83%	When plasma and red cells are reduced sequentially	This answer is not the best choice because the definition does not specify if the plasma and red cell reductions happen simultaneously or sequentially.
64.11%	Any time plasma and red cells are reduced, regardless of the timing	This is the correct answer. The order of the processes is not specified in the definition of "Buffy coat enriched."
8.13%	When a product is collected by an apheresis procedure that reduces the amount of plasma and red cells	This answer is incorrect because the reduction of plasma and red cells is assumed for a product collected by apheresis; therefore, this does not need to be specified in the coding. For apheresis collections, the term "Enrichment" is used when an <u>additional enrichment step</u> is performed in the laboratory <u>after the apheresis collection</u> has been completed and often prior to additional processing or manufacturing.

Q8: If Human Serum Albumin has been added to a product, which of the following attributes should be used?

Percentage of responses	Answer Choices	Rationale
35.89%	Other additives:Yes	This answer is incorrect. "Other additives:Yes" is intended for additives of non-human origin. Human Serum Albumin is of human origin and should be specifically included in the code. The description for the "Blood Component from 3rd Party Donor" attribute group is: "Describes blood products from other donors used during processing, such as albumin, Fresh Frozen Plasma, AB serum, Red Blood Cells."
57.89%	3rd Party component:Yes	This answer is correct because Human Serum Albumin is of human origin. The description for the "Blood Component from 3rd Party Donor" attribute group is: "Describes blood products from other donors used during processing, such as albumin, Fresh Frozen Plasma, AB serum, Red Blood Cells."
2.87%	Concurrent plasma + other	This answer is incorrect because Human Serum Albumin is not concurrent plasma or other. Human Serum Albumin is of human origin and should be specifically included in the code as "3rd Party component:Yes."
3.35%	Other additives:Yes, including animal source	The answer is incorrect because this attribute is intended for use with non-human animal source material.

Q9: The best Collection Type Code to use for a product from a related donor is:

Percentage of responses	Answer Choices	Rationale
1.59%	Volunteer homologous	<p>This answer is incorrect. It does not capture the related nature of donor and recipient in the coding.</p> <p>This is not the best answer. "Directed" is defined in ISBT 128 documents (see note below) as: "A product collected from an individual who presents to the collecting facility at the request of another person intending his/her product to be used by that person." While this is true for a cellular therapy donor, "Designated" (see the explanation in the Designated response below) is a better fit.</p>
47.62%	Directed	<p>In cellular therapy, in most instances, the laboratory selects a suitable donor (unrelated volunteer or related to the patient). Therefore, products are not routinely collected from individuals who present to the collecting facility at the request of another person intending his/her product to be used by that person, as stated in the definition of "Directed."</p> <p>While this is not the best choice, it is recognized that "Directed" and "Designated" may be used interchangeably depending on regulatory agencies or country-specific requirements.</p>

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Note:

Documents that include definitions for collection type codes are: *ISBT 128 Standard Technical Specification* (see glossary) (ST-001) and *Implementation Guide: Product Coding [Data Structures 003 and 032] - Cellular Therapy* (IG-022) (see Chapter 4).

Q9: The best Collection Type Code to use for a product from a related donor is:

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Percentage of responses	Answer Choices	Rationale
34.92%	Designated	<p>This is the best fit option because, in most instances, for cellular therapy products the laboratory selects a suitable donor (unrelated volunteer or related to the patient); therefore, the collection type "Designated" is more appropriated.</p> <p>"Designated" is defined in ISBT 128 documents (see note below) as: "A special product (for example, HLA-compatible) collected through an arrangement by the collecting facility to be used by a specific recipient (or for Cellular Therapy products, possibly a small group of recipients)."</p> <p>It is acknowledged that national authorities or regulatory agencies may specify which Collection Type Code to use; therefore, users should follow appropriate regulations and requirements.</p>
15.87%	Dedicated	<p>This answer is incorrect because the "Dedicated" collection type is intended to be used when an identified donor (who may or may not be related) is supporting treatment of a patient on a frequent basis and where the collections may occur more frequently than would normally be allowed.</p>

Note:

Documents that include definitions for collection type codes are: *ISBT 128 Standard Technical Specification* (see glossary) (ST-001) and *Implementation Guide: Product Coding [Data Structures 003 and 032] - Cellular Therapy* (IG-022) (see Chapter 4).

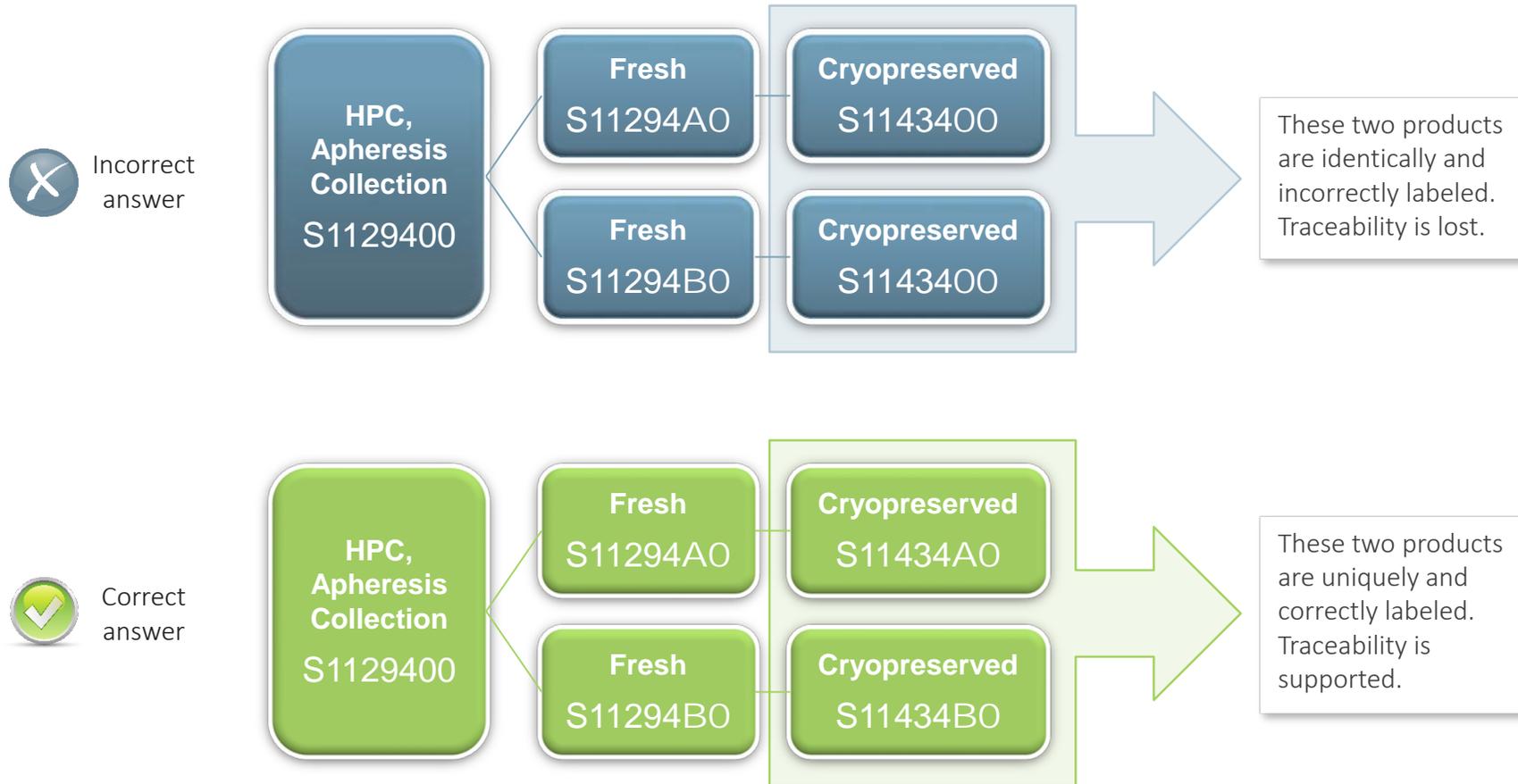
Q10: The Division Code is used:

Percentage of responses	Answer Choices	Rationale
17.55%	To uniquely identify each product resulting from a collection. For example, an HPC, Apheresis product is processed into two products: HPC, Apheresis, CD34 enriched and T Cells, Apheresis. The HPC, Apheresis is given the code S16454A0 and the T Cells, Apheresis is given the code S25434B0.	This answer is incorrect. Each product resulting from a collection is uniquely identified using the product description codes (PDCs). In the example, <u>S1645400</u> and <u>S2543400</u> would be assigned to the two products to uniquely identify them (the first five characters of the product code form the product description code). A division code is not required in this situation.
46.28%	To uniquely identify each product from a collection that is assigned the same product code	This answer is correct. Division codes (the letters and numbers in the 7 th and 8 th positions of the product code) should be used to uniquely identify each product from a collection that has been assigned the same product code (e.g., the two halves of an HPC, Marrow product that has been divided).
31.38%	For both answers above	This answer is incorrect since the first option is incorrect.
4.79%	Entirely at a facility's discretion	This answer is incorrect because division codes should be used in accordance with the ISBT 128 Standard Technical Specification.

Q11: If a divided designated product with the product code S11294B0 is further processed into a cryopreserved product (S1143), the new product code should be:

Percentage of responses	Answer Choices	Rationale
4.28%	S11294C0	This answer is incorrect because the product description code (S1129) does not correspond to the cryopreserved product.
8.56%	S11294Bb	This answer is incorrect because the product description code (S1129) does not correspond to the cryopreserved product.
18.72%	S1143400	This answer is incorrect because the daughter product must carry the division code from the parent product. Using this product code with no division code (S1143400) could result in multiple products having the same Donation Identification Number (DIN) and Product Code. For example, if S11294A0 is cryopreserved and becomes <u>S1143400</u> AND S11294B0 is cryopreserved and becomes <u>S1143400</u> , then the two cryopreserved products are labeled identically and traceability is lost. See the next slide for a graphic explaining this.
53.48%	S11434B0	This answer is correct. It correctly assigns a new product description code to the cryopreserved product and carries the division code from the parent product. This is essential if multiple divided products from the same collection with the same product description code exist. See the next slide for a graphic explaining this.
14.97%	S11434Bb	This answer is incorrect. The "b" in the 8 th position of the product code indicates this is a division of S11434B0, rather than the cryopreserved product resulting from S11294B0.

Graphical explanation of incorrect and correct answers for Question 11



Q12: What is the best Product Description Code for a cord blood product collected in citrate and cryopreserved in 10% DMSO and stored at -150 C?

Percentage of responses	Answer Choices	Rationale
5.26%	S1124 HPC, CORD BLOOD NS/XX/<=-150C 10% DMSO Cryopreserved	This answer is incorrect because the anticoagulant (citrate) should be encoded when it is present in significant amounts.
87.13%	S1584 HPC, CORD BLOOD Citrate/XX/<=-150C 10% DMSO Cryopreserved	This answer is correct because this option correctly describes the product in question.
1.17%	S2838 HPC, CORD BLOOD Citrate/XX/N2 liquid For further processing 10% DMSO Cryopreserved	This answer is incorrect. "N2 liquid" should only be used when the product is completely immersed in the liquid phase of nitrogen, which is not described in the question. The attribute "For further processing" is intended to be used as a "warning flag" so that a product with this attribute will not be directly administered. The "For further processing" attribute would require this product to be further processed and re-labeled before administration.
0.58%	S2778 HPC, CORD BLOOD Citrate/XX/<=-150C NS DMSO Cryopreserved	This answer is incorrect because the DMSO concentration is encoded as "NS" (not specified) instead of "10% DMSO" that is specific to the product in question and is encoded in the second option.
5.85%	Product not adequately described by above descriptions. A new Product Description Code should be requested.	This answer is incorrect because the second option correctly describes the product in question.

Q13: What is the best Product Description Code for a fresh HPC, Apheresis collected in citrate that has not been further processed after the apheresis procedure?

Percentage of responses	Answer Choices	Rationale
85.38%	S1129 HPC, APHERESIS Citrate/XX/rt Mobilized	This is the correct answer. It correctly describes the product.
0.00%	S1693 HPC, APHERESIS Citrate/XX/rt Mobilized Plasma reduced	This answer is incorrect because the question does not indicate that the product had been plasma reduced separately from the apheresis procedure itself.
2.92%	S2464 HPC, APHERESIS Citrate/XX/rt Concurrent plasma Mobilized	This answer is incorrect because the question does not indicate that concurrent plasma was added to the product.
1.17%	S2920 HPC, APHERESIS Citrate/XX/rt Other Additives:Yes Mobilized RBC reduced	This answer is incorrect because the question does not indicate that the product had been RBC reduced separately from the apheresis procedure itself or contains other additives.
10.53%	Product not adequately described by above descriptions. A new Product Description Code should be requested.	This answer is incorrect because the first option correctly describes the product.

Q14: What is the best Product Description Code for a marrow harvest collected in citrate and then cryopreserved? Red cells and plasma have been reduced, 10% DMSO has been added to the product, and it is stored at -150C.

Percentage of responses	Answer Choices	Rationale
84.21%	S1415 HPC, MARROW Citrate/XX/<=-150C 10% DMSO Cryopreserved Buffy coat enriched	This answer is correct. This option correctly describes the product.
1.17%	S2339 HPC, MARROW NS/XX/<=-120C Filtered 10% DMSO Cryopreserved RBC reduced	<p>This answer is incorrect because this product description includes the attributes "<=-120C" and "RBC reduced." The correct attributes to describe this product are "Buffy coat enriched" because both red blood cells and plasma were removed and "<=-150C" since the product is stored at that temperature.</p> <p>In addition, per definition, the attribute "Filtered" should not be used for bone marrow harvest.</p>
0.00%	S2882 HPC, MARROW Citrate/XX/<=-150C 10% DMSO Cryopreserved Plasma reduced	This answer is incorrect because both plasma and red cells have been reduced. The correct attribute to describe this is "Buffy coat enriched," which is defined as "Cells remaining after reduction of mature erythrocytes and plasma."

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Q14: What is the best Product Description Code for a marrow harvest collected in citrate and then cryopreserved? Red cells and plasma have been reduced, 10% DMSO has been added to the product, and it is stored at -150C.

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Percentage of responses	Answer Choices	Rationale
5.26%	S2884 HPC, MARROW Citrate/XX/<=-150C 10% DMSO Cryopreserved RBC reduced	This answer is incorrect because both plasma and red cells have been reduced. The correct attribute to describe this is "Buffy coat enriched," which is defined as "Cells remaining after reduction of mature erythrocytes and plasma."
9.36%	Product not adequately described by above descriptions. A new Product Description Code should be requested.	This answer is incorrect because the first option correctly describes the product.

Q15: What is the best Product Description Code for a cryopreserved apheresis product collected for marrow reconstitution with the following characteristics:

Collected in citrate - CD34 enriched - 10% DMSO, PlasmaLyte and Human Serum Albumin have been added

Percentage of responses	Answer Choices	Rationale
20.47%	S1178 HPC, APHERESIS Citrate/XX/<=-150C 10% DMSO Other Additives:Yes Cryopreserved Mobilize d CD34 enriched	This answer is incorrect because it encodes citrate, which should be encoded only when it is present in significant amounts. The product in question is enriched for CD34. This means it is highly processed and only trace amounts of the original citrate remain in the product. In addition, the product in question contains Human Serum Albumin, a human-source product; therefore, the attribute "3rd Party Comp:Yes" must be included in the product description.
8.77%	S1526 HPC, APHERESIS NS/XX/<=-150C 10% DMSO 3rd Party Comp:Yes Other Additives:Yes Cryopreserved Mobilize d CD34 enriched	This answer is acceptable but not ideal. The anticoagulant is encoded as "NS" (not specified) but "None" is the more appropriate attribute because it specifies that no significant amount of anticoagulant is present (see Section 3.2.1 of the ISBT 128 Standard Terminology).
55.56%	S1685 HPC, APHERESIS Citrate/XX/<=-150C 10% DMSO 3rd Party Comp:Yes Other Additives:Yes Cryopreserved Mobilize d CD34 enriched	This answer is incorrect because it encodes citrate, which should be encoded only when it is present in significant amounts. The product in question is enriched for CD34 cells. This means it is highly processed and only trace amounts of the original citrate remain in the product. "None" is the more appropriate attribute for the anticoagulant because it specifies that no significant amount of anticoagulant is present.

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Q15: What is the best Product Description Code for a cryopreserved apheresis product collected for marrow reconstitution with the following characteristics:

Collected in citrate - CD34 enriched - 10% DMSO, PlasmaLyte and Human Serum Albumin have been added

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Percentage of responses	Answer Choices	Rationale
2.92%	S3207 HPC, APHERESIS NS/XX/<=-150C 10% DMSO Other Additives:Yes Cryopreserved Mobilized CD34 enriched	This answer is incorrect because the product in question contains Human Serum Albumin, a human-source product; therefore, the attribute "3rd Party Comp:Yes" must be included in the product description.
12.28%	Product not adequately described by above descriptions. A new Product Description Code should be requested.	This answer is correct. None of the above descriptions precisely describe the product in question. A better option for this product would be S1381 HPC, APHERESIS None/XX/<=-150C 10% DMSO 3rd Party Comp:Yes Other Additives:Yes Cryopreserved Mobilized CD34 enriched.

The next four questions (16-19) relate to Scenario 1 described below.

Scenario 1:

- You are harvesting a bone marrow for a fresh product transplant for a child. Additional details:
 - You use a harvest collection kit, which includes a series of progressive filters prior to the final collection bag
 - Heparin is used as the collection anticoagulant
 - The fresh product is stored at room temperature
 - The cryopreserved product has 10% DMSO
- There are four products for which coding must be considered:
 - (1) The product at collection
 - (2) The fresh product for administration
 - (3) A cryopreserved product
 - (4) The thawed product for administration

Q16: Which description best fits the product at time of collection?

Percentage of responses	Answer Choices	Rationale
48.19%	S1152 HPC, MARROW Heparin/XX/rt	This answer is correct. This option correctly describes the product.
12.65%	S1695 HPC, MARROW Heparin/XX/rt Filtered Other Additives:Yes	<p>This answer is incorrect because this product description includes the attribute "Other Additives:Yes" that does not apply in this particular scenario (other additives were not added at the time of collection). It is understood that it is common practice to add other additives along with Heparin during the collection of HPC, MARROW; however, information on other additives was not provided for this question.</p> <p>In addition, per definition, the attribute "Filtered" should not be used for bone marrow harvest at the time of collection (please refer to the definition of "Filtered").</p>
0.60%	S3027 HPC, MARROW Heparin/XX/rt RBC reduced	This answer is incorrect because the red cells were not reduced in the product at the time of collection.
16.27%	S3381 NC, MARROW Heparin/XX/rt For further processing	This answer is incorrect because this product description includes the class "NC, MARROW," which incorrectly describes the product in question. In addition, "For further processing" is not specified for this product. However, a facility may use this as an internal code for process control.
22.29%	Product not adequately described by above descriptions. A new Product Description Code should be requested.	This answer is incorrect because the first option correctly describes the product.

Q17: In the final fresh product, the red cells and plasma have been reduced. The cells have been suspended in PlasmaLyte with Human Serum Albumin. What is the best description for this product?

Percentage of responses	Answer Choices	Rationale
19.28%	S1332 HPC, MARROW Heparin/XX/rt Other Additives:Yes Buffy coat enriched	This answer is incorrect because the product in question contains Human Serum Albumin, a human-source product; therefore, the attribute "3rd Party Comp:Yes" must be included in the product description.
1.81%	S1695 HPC, MARROW Heparin/XX/rt Filtered Other Additives:Yes	This answer is incorrect. Per definition, the attribute "Filtered" should not be used for bone marrow harvest. In addition, this product description does not include the attributes "3rd Party Comp:Yes" and "Buffy coat enriched" to encode the Human Serum Albumin and red cell/plasma reduction, respectively.
1.20%	S3128 HPC, MARROW Heparin/XX/rt 3rd Party Comp:Yes Other Additives:Yes Plasma reduced	This answer is incorrect because both the red cells and plasma have been reduced; therefore, the appropriate attribute should be "Buffy coat enriched" instead of "Plasma reduced."
63.25%	S3129 HPC, MARROW Heparin/XX/rt 3rd Party Comp:Yes Other Additives:Yes Buffy coat enriched	This answer is correct. This option correctly describes the product. The attribute "Buffy coat enriched," by definition, includes both red cell and plasma reduction.
14.46%	Product not adequately described by above descriptions. A new Product Description Code should be requested.	This answer is incorrect because the fourth option correctly describes the product.

Q18: The product in Question 17 above was divided so that one portion is to be given fresh and the other portion is to be cryopreserved. What is the best description for the cryopreserved product? The product is stored in 10% DMSO.

Percentage of responses	Answer Choices	Rationale
45.78%	S1456 HPC, MARROW NS/XX/<=150C 10% DMSO 3rd Party Comp:Yes Other Additives:Yes Cryopreserved Buffy coat enriched	This answer is acceptable and is the best of the coding options provided but is not ideal. The anticoagulant is encoded as "NS" (not specified) but "Heparin" is the more appropriate attribute because the anticoagulant should be encoded when it is present in significant amounts.
9.04%	S1893 HPC, MARROW NS/XX/<=150C 10% DMSO Cryopreserved Buffy coat enriched	This answer is incorrect because this product description does not include the attributes "3rd Party Comp:Yes" and "Other Additives:Yes." In addition, the anticoagulant is encoded as "NS" instead of "Heparin."
1.20%	S1895 HPC, MARROW NS/XX/<=150C 10% DMSO Other Additives:Yes Cryopreserved Plasma reduced	This answer is incorrect because (a) both the red cells and plasma have been reduced; therefore, the appropriate attribute should be "Buffy coat enriched" instead of "Plasma reduced" and (b) this product description does not include the attribute "3rd Party Comp:Yes." In addition, the anticoagulant is encoded as "NS" instead of "Heparin."

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Q18: The product in Question 17 above was divided so that one portion is to be given fresh and the other portion is to be cryopreserved. What is the best description for the cryopreserved product? The product is stored in 10% DMSO.

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Percentage of responses	Answer Choices	Rationale
7.83%	S2337 HPC, MARROW NS/XX/<=-120C Filtered 10% DMSO Other Additives:Yes Cryopreserved Buffy coat enriched	This answer is incorrect because (a) this product description includes the attribute "Filtered," which should only be used if filtration is performed as an additional procedure (after harvesting of the product) and (b) the product description does not include "3rd Party Comp:Yes." In addition, the anticoagulant is encoded as "NS" instead of "Heparin."
36.14%	Product not adequately described by above descriptions. A new Product Description Code should be requested.	This answer is correct. None of the above descriptions precisely describe the product in question. The best fit for this product would be S1981 HPC, MARROW Heparin/XX/<=-150C 10% DMSO 3rd Party Comp:Yes Other Additives:Yes Cryopreserved Buffy coat enriched.

Q19: The cryopreserved product is thawed at bedside. What is the best description for the thawed product?

Percentage of responses	Answer Choices	Rationale
9.64%	S1751 HPC, MARROW Heparin/XX/rt 10% DMSO 3rd Party Comp:Yes Other Additives:Yes Thawed RBC reduced	ISBT 128 Standards and major accreditation standards do not require a product thawed at bedside to be re-labeled and the practice may create logistical challenges.
1.20%	S2455 HPC, MARROW Citrate/XX/refg Filtered NS DMSO 3rd Party Comp:Yes Other Additives:Yes Thawed Washed RBC reduced	ISBT 128 Standards and major accreditation standards do not require a product thawed at bedside to be re-labeled and the practice may create logistical challenges.
4.22%	S2515 HPC, MARROW None/XX/refg 10% DMSO Other Additives:Yes Thawed RBC reduced	ISBT 128 Standards and major accreditation standards do not require a product thawed at bedside to be re-labeled and the practice may create logistical challenges.
65.66%	The cryopreserved product does not need to be relabeled with a new Product Description Code when it is thawed at bedside.	This is the correct answer unless regulations dictate otherwise.
19.28%	Product not adequately described by above descriptions. A new Product Description Code should be requested.	This answer is incorrect because the fourth option is correct.

The next two questions (20-21) relate to Scenario 2 described below.

Scenario 2:

- You are performing an apheresis collection for hematopoietic reconstitution from a mobilized allogeneic donor to an adult recipient.
 - The product is collected in citrate
 - The physician orders the product to be CD34 enriched
- There are two products for which coding must be considered:
 - (1) The product at collection
 - (2) The fresh, CD34 enriched product for administration

Q20: Which description best fits the product at time of collection?

Percentage of responses	Answer Choices	Rationale
53.75%	S1129 HPC, APHERESIS Citrate/XX/rt Mobilized	This is the correct answer. This option correctly describes the product.
0.63%	S1860 HPC, APHERESIS NS/XX/rt Mobilized	This answer is incorrect because the anticoagulant (citrate) should be encoded when it is present in significant amounts.
1.88%	S1862 HPC, APHERESIS Citrate/XX/rt 3rd Party Comp:Yes Mobilized CD34 enriched	This answer is incorrect because this product description includes the attributes "3rd Party Comp:Yes" and "CD34 enriched" that incorrectly describe the product in question. The label should describe the collected product at the time it is labeled and not include planned processes.
40.63%	S1873 HPC, APHERESIS Citrate/XX/rt For further processing Mobilized	This is an acceptable answer when a facility uses the "For further processing" attribute for a collected product that is intended for further processing into a product that may be administered (the collected product is not intended for direct administration).
3.13%	Product not adequately described by above descriptions. A new Product Description Code should be requested.	This answer is incorrect because the first option correctly describes the product.

Q21: What is the best description for the final fresh CD34 enriched product?

Percentage of responses	Answer Choices	Rationale
58.13%	S1645 HPC, APHERESIS Citrate/XX/refg Mobilized CD34 enriched	This answer is incorrect because it encodes citrate, which should be encoded only when it is present in significant amounts. The product in question is enriched for CD34 cells. This means it is highly processed and only trace amounts of the original citrate remain in the product.
9.38%	S1646 HPC, APHERESIS Citrate/XX/refg 3rd Party Comp:Yes Mobilized CD34 enriched	This answer is incorrect because (a) this product description encodes citrate, which should be encoded only when it is present in significant amounts (the product is enriched for CD34 cells, which means it is highly processed and only trace amounts of the original citrate remain in the product) and (b) this product description includes the attribute "3rd Party Comp:Yes" that is not specified for this product.
5.63%	S2165 HPC, APHERESIS NS/XX/refg 3rd Party Comp:Yes Mobilized CD34 enriched	This answer is incorrect because this product description includes the attribute "3rd Party Comp:Yes" that is not specified for this product.
10.00%	S2974 HPC, APHERESIS NS/XX/refg Mobilized CD34 enriched	This answer is acceptable and is the best of the coding options provided but is not ideal. The anticoagulant is encoded as "NS" (not specified) but "None" is the more appropriate attribute because it specifies that no significant amount of anticoagulant is present (see Section 3.2.1 of the ISBT 128 Standard Terminology).
16.88%	Product not adequately described by above descriptions. A new Product Description Code should be requested.	This answer is correct. None of the above descriptions precisely describe the product in question, and a different product description code should be requested. The best description for this product would be HPC, APHERESIS None/XX/refg Mobilized CD34 enriched.