

Lymphocyte Separation Tube for Human Peripheral Blood

Cat#: 7922112/7922021

[Product Name]

Lymphocyte Separation Tube for Human Peripheral Blood

[Product Description]

This product is used for cell separation and purification by density gradient sedimentation according to the differences in cell densities with the help of the separation medium and centrifugation. The cell gradient density separation medium produces a certain density gradient to pour the anticoagulant blood into the separation tube, which does not have any filtering and screening function for blood cells. After centrifugation, erythrocytes and granulocytes sink to the bottom of the tube; PBMCs (peripheral blood mononuclear cells, including lymphocytes and monocytes) float on the surface of the separation medium, and a small part of cells may suspend in the separation medium. Lymphocytes can be separated from the peripheral blood by absorbing the cells on the surface of the separation medium.

[Model & Specification]

Product Name	Cat No.	Model	Size	Description
Lymphocyte Separation Tube for Human Peripheral Blood	7922112	15 mL Centrifuge tube	4 mL/vial, 20 vials per package	Each centrifuge tube contains 4 mL of separation medium
	7922021	50 mL Centrifuge tube	15 mL/vial, 25 vials per package	Each centrifuge tube contains 15 mL of separation medium

[Intended Use]

To be used for separating lymphocytes from human peripheral anticoagulant blood for further analysis.

[Main Compositions]

The product is composed of a centrifuge tube and a separation medium, the main components of the separation medium are ficoll and diatrizoic acid.

[Storage Conditions and Validity Period]

Kept unopened away from light at 2°C~30°C, valid for 2 years.

[Directions for Use]

1. Inspect, as shown in Figure 1 (A). Take out the separation tube, and observe whether any separation medium has moved from below to above of the porous barrier. If yes, centrifuge at 800 g for 1 min at 20°C.

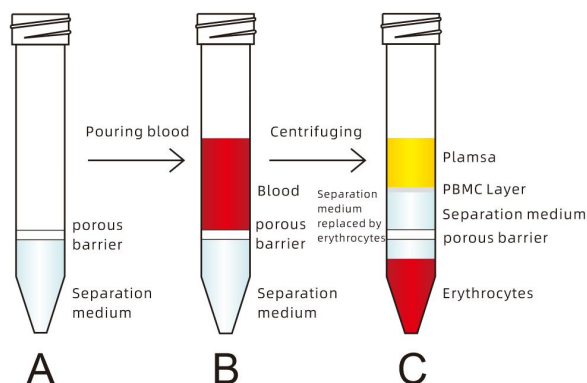


Figure 1. Process of Separating Blood with Lymphocyte Separation Tube for Human Peripheral Blood

2. Pour blood, as shown in Figure 1 (B). The blood sample must be anticoagulant blood without the need of dilution.
3. Centrifuge at 800 g for 15 min at 20°C.
4. After suctioning out a portion of the plasma, directly pour the remaining small amount of plasma, PBMC layer, and a small amount of separation medium above the porous barrier into a clean centrifuge tube. As shown in Figure 1 (C), and the PBMC layer is below the plasma and above the separation medium.
5. Wash with RPMI-1640 for 1~2 times (20°C, 250 g, 10 min). Resuspend the lymphocytes with normal saline or a suitable culture medium for use.

[Applicable Instrument]

Horizontal rotor centrifuge.

[Sample Requirement]

The sample must be fresh anticoagulant blood which shall be collected by sterile operation and shall not be frozen or refrigerated in the processes of storage, handling and transportation.

[Explanation of Test Results]

Different performance of centrifuges of various brands and differences in temperature environments may have influence on the separation effect, so users can adjust the centrifugation revolution and the centrifugation time to find the best separation conditions (The specific separation conditions are determined by laboratories).

[Limitations of Test Method]

The experiment requires that the temperature of the sample, the separation medium and the separation environment is (20±5)°C under normal atmosphere.

[Notes]

1. The separation tube shall be kept away from light at normal temperature.
2. The optimum separation temperature is (20±5)°C, beyond which the separation effect will be affected.
3. The blood shall be collected at normal temperature, stored in an anticoagulant container at normal temperature (for not more than 2 h) and separated at normal temperature, and shall not be kept in a 4°C refrigerator.
4. The blood can be separated directly without the need of dilution. However, dilution has no influence on the separation effect.
5. It is recommended to set a slower acceleration and deceleration when centrifuging (if there are ten gears and the tenth gear is the highest, acceleration and deceleration can be adjusted to the third gear).
6. For a 15 mL separation tube, peripheral anticoagulant blood is not less than 3 mL; and for a 50 mL separation tube, peripheral anticoagulant blood is not less than 15 mL. If the blood is not enough, the use of the separation tube is not recommended, and the dilution of the blood cannot improve the separation effect.

Cat No.	Type	Size	Recommended sample volume
7922112	15 mL Centrifuge tube	4 mL/vial, 20 vials per package	3~6 mL
7922021	50 mL Centrifuge tube	15 mL/vial, 25 vials per package	15~25 mL

7. The blood cells removed from the plasma can be poured into the separation tube directly or after being diluted with PBS, normal saline or medium without calcium and magnesium ions to double volume, so as to separate PBMCs, but only if there are enough erythrocytes. For a 15 mL separation tube, there are at least erythrocytes equivalent to those contained in 3 mL of blood; and for a 50 mL separation tube, there are at least erythrocytes equivalent to those contained in 15 mL of blood.

8. If fewer PBMC layer or red blood cells are observed, to avoid cell loss, the washing frequency can be appropriately reduced to once. For other situations, it is recommended to wash twice.

[References]

1. Boyum A. (1968): Separation of leucocytes from blood and bone marrow. Scand J. Clin. Lab. Invest. 21, Suppl. 97.
2. Harris R. & Ukayiofo EV. (1969): Rapid preparation for lymphocytes for tissue typing. Lancet 327, 7615.
3. Boyum, A. (1968): Isolation and removal of lymphocytes from bone marrow of rats and guinea-pigs., Scand J. Clin. Lab. Invest., 21, Suppl.97, 91-109.
4. Zheng Dexian, Wu Kefu, Chu Jianxin. (1999): Modern Experimental Hematology Research Method and Technology. Peking Union Medical College Press.

[Description of Product Symbol]

Product Symbol	Description	Product Symbol	Description
	Catalogue Number		Product Batch Code
	Date of Manufacture		Manufacturer
	Expiration Date		Temperature Limit
	Store away from light		Consult instructions for use
	Upward		Fragile, handle with care
	Keep dry		

[Instruction Revision Date]

2024.09.12

[Company Information]

Manufacturer and after-sales service unit Name:

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