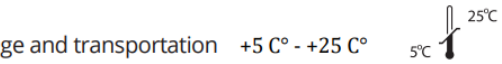
Vacuum Tube Application Guide

CE
IVD

Storage and transportation conditions

Temperature conditions for storage and transportation +5 C° - +25 C°



Special attention:

Blood Sedimentation tube Additive: Sodium Citrate	Liquid additive - keep from direct sunlight, do not freeze.

Transport box marks:

Recycled for box


Store and move upright

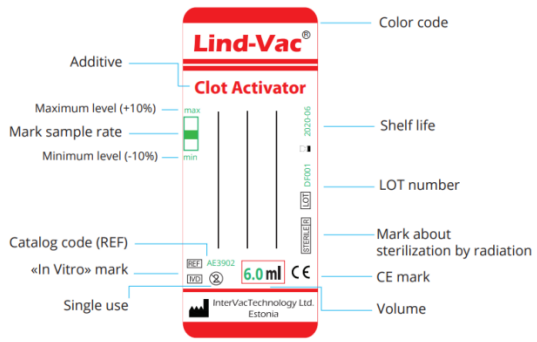

Keep away from moisture


Protect from sunlight

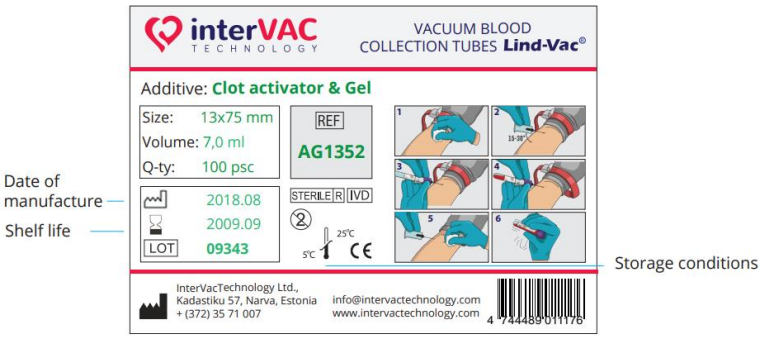
The limit on the number of tiers in the stack

Label information

Tube label



Rack (packing) label



CE	CE Mark
IVD	Symbol for "In Vitro Diagnostic Medical Device"

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General recommendations

The medic who is engaged in a blood capture is obliged to work in disposable gloves. It is necessary to check all subjects (tools) used at a blood capture (serviceability, an expiration date, quantities) and to have on a workplace so that they if necessary could be taken easily.

Technique of a venipuncture and blood collection using the Multi Sample Needles

Choose the most available vein which is (most filled).

1. Take a needle and remove a protective cap from the side closed by a rubber membrane.
2. Insert a needle in the holder and to screw up to the stop. To prepare all necessary test tubes.
3. Apply a tourniquet.
4. Disinfect a puncture place, using a tampon (or a napkin), moistened with alcohol (70% solution of isopropanol or 1% iodine solution are better).
5. Remove a protective cap from the second part of a needle; insert the needle-holder system into the patient's vein, the needle should be placed with the cut upward and with respect to the skin at an angle of 15 °. At this point, the blood does not pass through the needle, since its second end is closed with a rubber membrane.
6. Insert a test tube in the holder up to the stop. Thus, the needle punctures a rubber membrane and a rubber cap in a test tube cap - the channel between a test tube with vacuum and a cavity of a vein is formed. It is necessary to pay attention, whether needle is not under the skin. If it occurred, by a forefinger of the left hand determine a vein and move a needle forward again to enter a vein. As soon as blood starts coming to a test tube, don't move a needle. Blood passes in a test tube until it compensates the vacuum created in a test tube (if blood doesn't go it means that the needle passed through a vein- in this case it is necessary to extend a little a needle (but not to take it out!), until blood goes to a test tube).
7. The tourniquet is released when blood flowed to a test tube.
8. Never take out a needle from a vein while tourniquet is tightened. The test tube has to be filled, thus there will be a mixing of blood with anticoagulant or preservative in a proper correlation.
9. After the end of blood flow remove a test tube from the holder. The rubber membrane comes back to a starting position, blocking blood flow thorough a needle. If it is necessary, other test tubes for obtaining the necessary volume of blood for various researches is inserted into a holder. It isn't necessary to enter a needle into a vein for this purpose.
10. When using test tubes with additives, it is necessary to turn accurately a test tube 5-8 times for full mixture of blood with reagents. After the last test tube was filled, it is necessary to disconnect it from the holder and only after that to take out the holder with a needle from a vein.
11. As soon as blood is collected, a sterile gauze swab is placed on the puncture place and the needle is gently removed by gently pressing the swab at the puncture place while the needle is being removed.
12. For complete safety, we recommend that you carefully remove the needle from the holder using a special container. Materials and disposable materials used for venipuncture are placed in appropriate waste containers.
13. Label the tubes in accordance with the requirements of the medical institution.
14. Taken material is delivered to the laboratory.

Technique of a venipuncture and blood collection using the Blood Collection Set (Butterfly Needle)

Choose the most available vein which is (most filled).

1. Prepare all the necessary test tubes. Take the butterfly needle with the luer-adapter and extract it from the individual package.
2. Apply a tourniquet.
3. Disinfect a puncture place, using a tampon (or a napkin), moistened with alcohol (70% solution of isopropanol or 1% iodine solution are better).
4. Firmly squeeze the "wings" of the butterfly needle and gently remove the protective cap from the needle; insert the needle-holder system into the patient's vein, the needle should be placed with the cut upward and with respect to the skin at an angle of 15 °. At this point, the blood does not pass through the needle, since its second end is closed with a rubber membrane.
5. Insert a needle in the rubber on the test tube cap until it stops. Thus, the needle punctures a rubber membrane and a rubber cap in a test tube cap - the channel between a test tube with vacuum and a cavity of a vein is formed. It is necessary to pay attention, whether needle is not under the skin. If it occurred, by a forefinger of the left hand determine a vein and move a needle forward again to enter a vein. As soon as blood starts coming to a test tube, don't move a needle. Blood passes in a test tube until it compensates the vacuum created in a test tube (if blood doesn't go it means that the needle passed through a vein- in this case it is necessary to extend a little a needle (but not to take it out!), until blood goes to a test tube).
6. The tourniquet is released when blood flowed to a test tube.
7. Never take out a needle from a vein while tourniquet is tightened. The test tube has to be filled, thus there will be a mixing of blood with anticoagulant or preservative in a proper correlation.
8. After the end of blood flow remove a test tube from the holder. The rubber membrane comes back to a starting position, blocking blood flow thorough a needle. If it is necessary, other test tubes for obtaining the necessary volume of blood for various researches is inserted into a holder. It isn't necessary to enter a needle into a vein for this purpose.
9. When using test tubes with additives, it is necessary to turn accurately a test tube 5-8 times for full mixture of blood with reagents.
10. As soon as blood is collected, a sterile gauze swab is placed on the puncture place and the needle is gently removed by gently pressing the swab at the puncture place while the needle is being removed.
11. For complete safety, we recommend that you carefully remove the needle from the holder using a special container. Materials and disposable materials used for venipuncture are placed in appropriate waste containers.
12. Label the tubes in accordance with the requirements of the medical institution.
13. Taken material is delivered to the laboratory.

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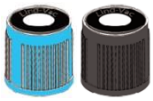
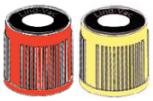
Recommended order of use of tubes in accordance with the standard H3-A6, CLSI (USA):

					
Red	**Blue or Black**	**Red** **Yellow**	**Green**	**Violet**	**Grey**
No additive	**Sodium citrate**	**Clot Activator, Clot Activator & Gel, Thrombin**	**Heparin**	**EDTA**	**Glucose**

To obtain reliable results of coagulation studies, the first test tube must be discarded. The test is performed from a second test tube. As the first test tube, it is recommended to use a tube without filler (with a red cap), which is then discarded.

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Recommendations for centrifugation and additional recommendations:

Additive	Application area	Conditions for centrifugation, g / min (t 25°C)	Additional recommendations
No additive	Study of biological fluids in clinical chemistry, serology, immunology	1300 g /10 min	Clotting time: 60 minutes
Clot activator	Study of blood serum in clinical chemistry, serology, immunology, protein electrophoresis	1300 g /10 min	Clotting time: 10-30 minutes
Thrombin	Express clinical chemistry tests of blood serum.	1300 g /10 min	Clotting time: 3-5 minutes
Lithium or Sodium Heparin	Clinical chemistry, immunology, toxicology tests of blood plasma.	1300 g /10 min	Storage not more than 6 hours at room temperature
Sodium citrate (3,8% /3,2%)	Hemostasis Diagnostics (Coagulation)	2000-2500 g/ 10-15 min	Samples are stored at 18-24°C and 2-4°C, and should be centrifuged no later than 4 hours after blood collection.
ACD A/B	Immunology and blood group tests, blood storage.	/	
EDTA K2 EDTA K3	Hematological and molecular genetic tests	/	The time between blood collection and analysis should be between 30 minutes to 4 hours (ideally up to 2 hours)
Na fluoride and EDTA/Oxalate/Heparin	Glucose level, lactate, glycosylated hemoglobin.	1300 g /10 min	Glucose is stabilized in the sample 24 hours at room temperature and up to 72 hours when stored in the refrigerator sample.
ESR	The measurement of erythrocyte sedimentation rate.	/	
With gel			
Clot activator and Gel	Study of blood serum in clinical chemistry, serology, immunology, protein electrophoresis	1800-2200 g /10 min	Clotting time: 10-30 minutes, perform a study not later than 2 hours after blood collection, tubes can be frozen up to -20C
Thrombin and Gel	Express clinical chemistry tests of blood serum.	1800-2200 g /10 min	Clotting time: 3-5 minutes
Lithium or Sodium Heparin and Gel	Clinical chemistry, immunology, toxicology tests of blood plasma.	1800-2200 g /10 min	Storage not more than 6 hours at room temperature
Sodium citrate (3,8%/3.2%) and Gel	Hemostasis Diagnostics (Coagulation)	1800-2200 g /10 min	Samples are stored at 18-24°C and 2-4°C, and should be centrifuged no later than 4 hours after blood collection.
K2 EDTA, K3 EDTA and Gel	Immunohematological and molecular genetic tests of blood plasma.	1100-1800 g /10 min	The time between blood collection and analysis should be between 30 minutes to 4 hours (ideally up to 2 hours)
Na fluoride and EDTA/Oxalate/Heparin And Gel	Glucose level, lactate, glycosylated hemoglobin in plasma (especially for diagnosis of gestation diabetes)	1800-2200 g /10 min	Glucose is stabilized in the sample 24 hours at room temperature and up to 72 hours when stored in the refrigerator sample.
DNA tube (EDTA and DNA stabilization solution)	Tests of DNA fragments, hematological and molecular genetic tests.	~ 2000 g /10 min	Centrifugation speed depends from DNA isolation KIT.