



Sterile Acrodisc® White Blood Cell Syringe Filter

Description

Proven Performance

Sterile Acrodisc white blood cell (WBC) syringe filter

Pall Laboratory's sterile Acrodisc WBC syringe filter uses proprietary filter technology to separate leukocytes from whole blood in less than 10 minutes for 10 mL. The sterile Acrodisc WBC filter contains Pall's patented Leukosorb™ media. Leukosorb is a fibrous matrix that uses a multimodal approach of size exclusion and adsorption to capture and recover leukocytes from whole blood samples while allowing red blood cells (RBCs) and platelets to flow through the membrane.

The sterile Acrodisc WBC syringe filter provides scientists a simple and efficient method to isolate blood cells used in a variety of research applications including:

- Leukocyte depletion
- Whole WBC capture
- Ficol separations
- Lymphocyte recovery for cell therapy
- Monoclonal antibody development
- Stem cell research applications

With the sterile Acrodisc WBC syringe filter, the uniquely designed filter does all the difficult capture work, resulting in more efficient white blood cell separation as compared to buffy coat density gradient and larger size filter methods. This includes 100% removal of viable WBC, 99% recovery of RBC in the filtrate for leukocyte depletion applications and ~70% WBC recovery from backflush step for leukocyte recovery applications. The sterile Acrodisc WBC syringe filter yields greater cell capture and recovery with less sample compared to larger filter formats and also exudes very low hold up volume as compared to larger white blood cell isolation filters (hold up volume < 2 mL, with total sample volume = 12 mL).



Instructions of Use

The sterile Acrodisc WBC syringe filter is to be used in the isolation of WBC from whole blood samples. As the blood passes passively over the membrane, WBC are trapped on the fibrous membrane matrix. The leukocyte depleted sample can then be used or the WBC retained on the membrane can be recovered.

This filtration process occurs best when carried out passively (filter by gravity) but pressure can be used. However, care must be taken to not lyse the red blood cells (RBC's) which could lead to haemoglobin contamination and a reduction in WBC recovery and viability.

White Blood Cell Capture Step

1. Remove the sterile Acrodisc WBC syringe filter from its blister packaging.
2. Attach a 10 mL syringe barrel to the inlet side of the sterile Acrodisc WBC syringe filter.
3. Place on top of an open 50 mL collection tube and secure in place with a small piece of tape.

4. Pour the ambient temperature blood sample into the syringe barrel and allow the blood to filter under gravity. Leukocyte depleted sample can be retained for further processing.
5. Wash the retained WBC's with 10 mL of PBS solution, pH 7.4 to the barrel of the syringe and allow to filter through under gravity (recommended for maximum WBC recovery). This step can also be carried out under pressure (~3 drops per second).

White Blood Cell Recovery Step

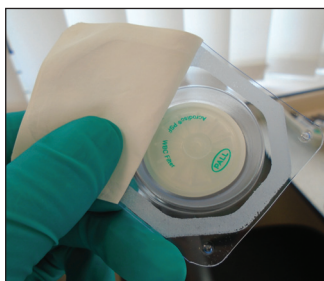
1. Remove the syringe from the WBC filter and flip over so that the outlet side is facing upwards.

2. Attach a new 10 mL luer lock syringe with PBS, pH 7.4 to the outlet side and push the PBS through to wash off the retained leukocytes and white blood cells off the filter.
3. Multiple backflush steps can be carried out to increase white blood cell recovery (3-5 repeats recommended).

Note: Passage of the blood is dependent on haematocrit and blood temperature.

Disposal

Due to the biological nature of the devices application for which the product is intended, used filters may be classified as hazardous – clinical waste and disposed of as biological waste following local regulations and procedures.



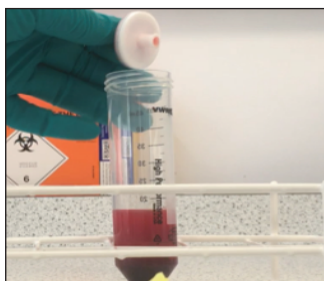
1. Remove the Acrodisc WBC syringe filter from its blister packaging.



2. Remove the syringe plunger and attached the 10 mL syringe to the filter inlet.



3. Place on top of an open 50 mL collection tube and secure with tape.



6. The filtrate is the leukocyte depleted sample.



5. When the blood has filtered through, add 10 mL of PBS solution and filter by gravity.



4. Pour the whole blood sample into the syringe barrel and allow the blood to filter under gravity.



7. The syringe filter is flipped over and the outlet side is connected to a new 10 mL syringe, filled with PBS.



8. The filter with the syringe is placed on a new collecting tube, and the PBS is pushed through the filter.



9. Multiple backflush steps can be carried out. (3-5 repeats recommended to maximize WBC recovery).

Anti- Coagulant Compatibility

The filters were tested with the following anticoagulants:

- K2EDTA
- Lithium heparin
- Sodium citrate

Figure 1

Leukocyte depletion (%) values from whole blood samples after filtration with the newly designed sterile Acrodisc WBC syringe filter. Values represent the average calculated from the 20 replicates tested under each condition.

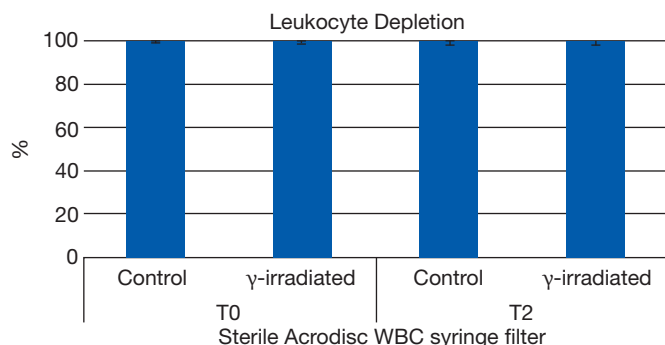
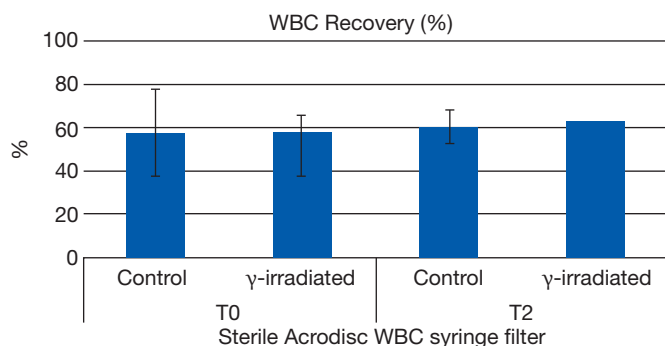


Figure 2

WBC % recovery values using the new sterile Acrodisc WBC syringe filter values represent the average calculated from the 20 replicates tested under each condition.



Specifications

Materials of Construction

Filter Media: Leukosorb (Proprietary)

Housing: Polypropylene

Effective Filtration Area

3.9 cm²

Sample Volume Range

< 12 mL

Inlet/Outlet Connections

Female luer-lock (clear) inlet/ female luer-lock (white) outlet.

Typical Hold up Volume

Hold up volume < 2 mL, with total sample volume = 12 mL

Maximum Operating Pressure

30 psi

Maximum operating Temperature

34 °C

Shelf Life

3 years

Ordering Information

Sterile Acrodisc WBC Syringe Filter with Leukosorb Membrane

Part Number	Description	Pkg
AP-4951	25 mm	10/pkg
AP-4952	25 mm	50/pkg



Corporate Headquarters

25 Harbor Park Drive
Port Washington, New York 11050

Filtration. Separation. Solution.SM

Visit us on the Web at www.pall.com/lab

E-mail us at LabCustomerSupport@pall.com

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