



Whatman FTA Protocol BD09

Removing a Sample Disc from an FTA[®] or CloneSaver[™] Card for Analysis

FTA[®] Technology

FTA Cards are impregnated with a patented chemical formula that lyses cell membranes and denatures proteins on contact. Nucleic acids are physically entrapped, immobilised and stabilised for storage at room temperature. FTA Cards protect nucleic acids from nucleases, oxidation, UV damage and microbial and fungal attack. Infectious pathogens in samples applied to FTA Cards are rendered inactive on contact. Samples collected on FTA Cards and enclosed in a multi-barrier pouch can be shipped through the post making them an extremely useful tool for field collection of blood, plants or other specimens.

Indicating FTA Cards turn from pink to white on sample application and are recommended for clear or colourless samples. CloneSaver[™] Cards are optimised for the room temperature collection and storage of plasmid DNA.

Handling Instructions

- Always wear gloves when handling FTA or CloneSaver Cards to avoid contamination of the Cards.
- Store unused FTA/CloneSaver Cards in a cool, dry place (avoid light and excessive humidity).
- Follow universal precautions when working with biological samples.
- FTA/CloneSaver Cards are non-toxic to humans.

Materials Required

- Whatman FTA Card – Indicating FTA Cards are recommended for use with clear samples. If applied to non-Indicating Cards, circle the application spot with a ballpoint pen or pencil.
- Whatman FTA purification reagent (cat no. WB120204).
- TE⁻¹ buffer (10mM Tris-HCl, 0.1mM EDTA, pH 8.0).
- 1.2mm or 2.0mm diameter Harris micro punch or other paper punch.
- Multi-barrier pouch (cat no. WB100010 – large, WB100011 – small).
- Desiccant pack for glycerol stock or high humidity storage areas (cat no. WB100003).

The FTA Principle – Get it Right First Time, Every Time

FTA works by lysis of cells releasing the nucleic acid within the matrix of the Card, where the nucleic acid will be entrapped among the cellulose fibres. Therefore the key step to ensure success is getting DNA-containing cells into the FTA in the presence of moisture to activate the cell-lytic and DNA-protective chemicals.

The processing of FTA works by washing away all cell debris and inhibitors of downstream analysis, leaving the DNA immobilised in the cellulose fibres. It is therefore essential that a good wash protocol is followed. Note: a good wash can be visualised in the processing of coloured samples such as blood and plants, where all of the red or green colour would have been removed from the punch. Insufficient washing can mean failure of your downstream analysis.

Controls

It is recommended that internal standard controls are used during each PCR analysis, these should include the following:

- Negative control.
- Negative control with washed, no-sample punch, to ensure that the punch does not cause a positive result.
- Positive control of a known DNA standard solution.
- Positive control standard added to a normally-washed, no-sample punch, to ensure that the punch does not inhibit the reaction.

Protocol

1. To prevent carry-over between samples, always ensure that the sample applied is dry before taking a punch.
2. Place the FTA Card/CloneSaver Card on a cutting mat. For Cards with outer paper layers, ensure the mat is directly beneath the FTA Card with no paper layer in between.
3. Place the tip of a coring device, eg a Harris 1.2mm or 2.0mm micro punch, over the area to be sampled. Do NOT depress the ejection plunger at this time.
4. Press down firmly on barrel of the coring device and twist one quarter turn to cut a disc out of the Card.
5. Once the disc is in the corer, transfer the disc to the desired PCR tube or tray by depressing the ejection plunger and ejecting the disc.
6. Care should be taken when handling the dry FTA discs because the static charge that can develop on some plastic labware can cause the discs to be ejected from the tubes and adhere to other surfaces.
7. In order to ensure there is no cross-contamination between samples, the coring device can be cleaned using one of three methods described below. Use the method that best fits your laboratory workflow.

Cleaning the Corer Tip

1. Rinse the tip with ethanol between samples and dry with a sterile wipe, or
 2. Take one punch from blank filter paper or an unspotted area of the FTA/CloneSaver Card between samples, or
 3. Clean the tip of the punch with a stream of clean compressed air between samples.
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Technical Help

If you experience any problems with this protocol or wish to obtain additional information please contact Whatman Technical Service Team on the following regional numbers. Alternatively, please visit www.whatman.com for additional product information and further contact details.

North America 1-800-WHATMAN

Europe +44(0)1622 676670 – ask for technical service

Japan +81(0)3 2515 1242 – ask for technical service

Asia Pacific +65 6534 0138 – ask for technical service

China +86 21 6443 7176 – ask for technical service

India +91 22 529 7035 – ask for technical service

For Additional Protocol Information Please Visit
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