

# QBC<sup>®</sup> F.A.S.T.<sup>™</sup> AFB Kits

3-Minute TB Staining for  
Fluorescence Microscopy

**WHO**  
Recommended  
Technology



# Fluorescent TB Staining in Just 3 Minutes with *F.A.S.T.*<sup>™</sup> AFB Kits



The World Health Organization has called on labs everywhere to improve the accuracy of tuberculosis detection with auramine stain-based fluorescence microscopy.<sup>1</sup> QBC Diagnostics' *F.A.S.T.* (Fluorescence and Staining Technologies) AFB Kits answer this call with the fastest auramine staining available today and other unique features that provide unrivaled ease of use:

## ■ 3-Minute Staining

*F.A.S.T.* AFB Stain prepares sputum samples for review in just 3 minutes, a fraction of the 20-minute staining time required for Ziehl-Neelsen or traditional auramine stains.

## ■ SureFocus<sup>™</sup> Microscope Slide

Exclusive to *F.A.S.T.* AFB Kits, SureFocus slides simplify review with a patent-pending smear guide that remains visible during fluorescent examination, keeping samples in focus and providing a suggested review path sized to meet WHO grading recommendations.

## ■ Design The System You Need

*F.A.S.T.* AFB Kits can be configured to include all of the tools needed for smear review, including quality control slides, sputum digestion solution, SureFocus slides, and more.

## ■ ParaWorld<sup>™</sup> Training Resources

ParaWorld training resources are readily available to assist all *F.A.S.T.* users in learning and mastering the latest techniques in fluorescence microscopy review.



MODE  
LAP-RESET

SET

MINUTE

SECOND

SELECT  
START-STOP

1/100SEC

3:00.00  
STW  
1/100

TOTAL/LAP TIME



# How It Works

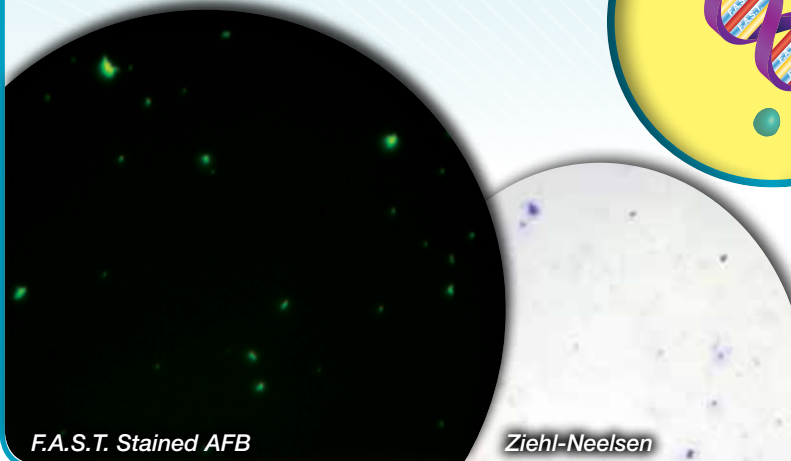
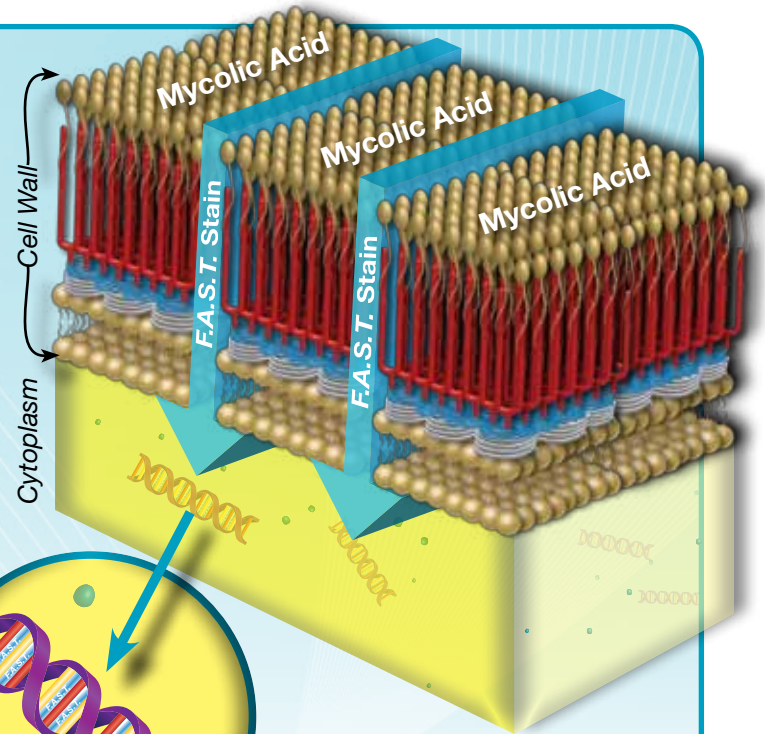
## F.A.S.T. Facts

### Acid-Fast Staining

Acid-Fast bacilli (such as *Mycobacterium tuberculosis*) have a thick, mycolic acid-laden cell wall (illustrated in cross section to the right) that is difficult to penetrate. Stain that manages to penetrate this wall is considered “acid fast” and can not be washed off with water or alcohol-based decolorizer.

### F.A.S.T. AFB Stain

F.A.S.T. AFB Stain’s unique, proprietary formulation quickly pierces through this wall, and binds to mycobacterial DNA by intercalating between base pairs (see right inset).



F.A.S.T. Stained AFB

Ziehl-Neelsen

### Powerful Fluorescence

AFB stained with auramine appears bright green against a dark background when excited by blue light (~460 nm), as seen to the far left. In the same sample stained with Ziehl-Neelsen (near left), AFB contrast poorly against stray artifacts and background light.

## 3-Minute Staining

Compare to:

### 1. Apply Stain & Rinse

Allow stain to set for approximately 1 minute



1:10 Minutes

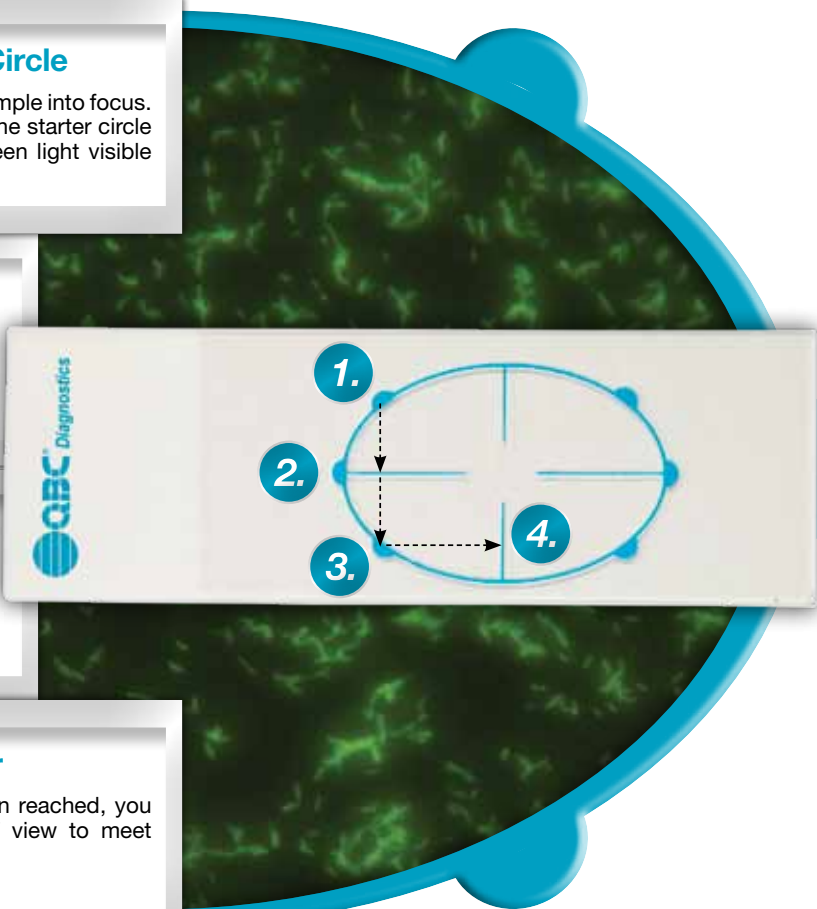


20 Seconds

Total Time | 1:30 Minutes

# SureFocus Microscope Slide

The SureFocus Microscope Slide simplifies AFB detection for all users. The suggested review path (seen on the slide below) allows users to make the most of the SureFocus slide:



- 1. Upper Left Starter Circle**  
Use this circle to bring the sample into focus. As seen in this micrograph, the starter circle will appear as a distinct, green light visible against a dark background.
- 2. Left Crosshair**  
Steadily make your way, one field at a time, to this crosshair. Once visible, use the crosshair to check focus.
- 3. Lower Left Starter Circle**  
Continue down to this starter circle. Check focus, and proceed right.
- 4. Bottom Crosshair**  
Once this crosshair has been reached, you have seen enough fields of view to meet WHO recommendations.<sup>2</sup>

*Ziehl-Neelsen or Standard Auramine Staining Time: 20 Minutes*

## 2. Apply Decolorizer/Quencher & Rinse

*Allow decolorizer to set for approximately 1 minute*



**Total Time | 3:00 Minutes**

# The Complete TB Solution

QBC Diagnostics has developed a Complete TB Solution designed to make adoption of *F.A.S.T.* technology easier for all users:

## ParaLens Advance

The ParaLens Advance can turn any compound light microscope into a high-powered LED fluorescence microscope. It attaches as easily as an objective, and boasts a long-lasting, durable LED light source that can be powered through a variety of convenient means.



PARAWORLD

## ParaWorld Training Resources

From training sessions to videos, bench aids, and more, ParaWorld has all of the educational tools necessary to get the most out of your *F.A.S.T.* products. To discover more, visit us online at <http://www.qbcdiagnostics.com/ParaWorld>.



**ParaLens Advance  
& SureFocus Slide**



## Ordering Information

**QBC F.A.S.T. Auramine O Stain Kit (120 mL) 427404**

*Includes stain for approximately 400 tests: 1 - 120 mL bottle of F.A.S.T. Auramine O Stain, and 1 - 120 mL bottle of F.A.S.T. Decolorizer/Quencher.*

**QBC F.A.S.T. Auramine O Stain Kit (250 mL) 427424**

*Includes stain for approximately 800 tests: 1 - 250 mL bottle of F.A.S.T. Auramine O Stain, and 1 - 250 mL bottle of F.A.S.T. Decolorizer/Quencher.*

**QBC F.A.S.T. Auramine O Stain Kit (3.8 L) 427425**

*Includes stain for approximately 12,800 tests: 1 - 3.8 L (1 gallon) bottle of F.A.S.T. Auramine O Stain, and 1 - 3.8 L (1 gallon) bottle of F.A.S.T. Decolorizer/Quencher.*

**QBC F.A.S.T. SureFocus™ Microscope Slides 427411**

*Includes 1 box of 432 slides.*

**QBC F.A.S.T. Quality Control Slides 427402**

*Includes 1 box of 5 slides.*

**QBC F.A.S.T. AFB Smear Kit 427409**

*Includes supplies for 400 tests: F.A.S.T. Auramine O Stain Kit (120 mL), 5 Quality Control Slides, 432 F.A.S.T. SureFocus Microscope Slides, 400 F.A.S.T. Sputum Cups, and 400 F.A.S.T. Applicator Sticks.*

**QBC F.A.S.T. AFB Smear Kit with Digestion Solution 427408**

*Includes supplies for 400 tests: F.A.S.T. Auramine O Stain Kit (120 mL), 5 Quality Control Slides, 432 F.A.S.T. SureFocus Microscope Slides, and 27 bottles of F.A.S.T. Sputum Digestion Solution.*

**QBC F.A.S.T. AFB E-Z Smear Kit (50 Test Count) 427410**

*Includes 10 packs, each containing supplies for 5 tests: 3 mL F.A.S.T. Auramine O Stain, 3 mL F.A.S.T. decolorizer/quencher, 5 F.A.S.T. SureFocus Microscope Slides, 5 F.A.S.T. Sputum Cups, and 5 F.A.S.T. Applicator Sticks.*

## Complete Fluorescence Systems

**QBC F.A.S.T. AFB Detection System with ParaLens Advance, Microscope, and Centrifuge (115 V, 60 Hz) 427400**

*Includes research grade microscope with 4x, 10x, 40x, and 100x objectives, ParaLens Advance microscope attachment with 20x and 40x objectives, QBC Horizon™ 755VES Centrifuge (115 V, 60 Hz), and QBC F.A.S.T. AFB Smear Kit with Digestion Solution.*

**QBC F.A.S.T. AFB Detection System with ParaLens Advance, Microscope, and Centrifuge (230 V, 50 Hz) 427414**

*The same as above, with a QBC Horizon 755VES Centrifuge (230 V, 50 Hz).*

**QBC F.A.S.T. AFB Detection System with ParaLens Advance and Centrifuge (115 V, 60 Hz) 427420**

*Includes ParaLens Advance microscope attachment with 20x and 40x objectives, QBC Horizon 755VES Centrifuge (115 V, 60 Hz), and F.A.S.T. AFB Smear Kit with Digestion Solution.*

**QBC F.A.S.T. AFB Detection System with ParaLens Advance and Centrifuge (230 V, 50 Hz) 427421**

*The same as above, with a QBC Horizon 755VES Centrifuge (230 V, 50 Hz).*

## References

1. World Health Organization Website, 2010. Web. 1 Dec. 2010. ([http://www.who.int/tb/laboratory/who\\_policy\\_led\\_microscopy\\_july10.pdf](http://www.who.int/tb/laboratory/who_policy_led_microscopy_july10.pdf)).
2. Fluorescent Stain Preparation. WHO laboratory services in tuberculosis control. Part II: Microscopy. WHO/TB/98.258. Geneva, Switzerland: WHO, 1998: 44-46.

# QBC F.A.S.T.™ AFB Kits

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Form No. 388 Rev. B