

EMPOWER
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AQUIOS CL

Safety Features for Handling Potentially Biohazardous Sample Material

Dr. Andreas Böhmler

April 29, 2020



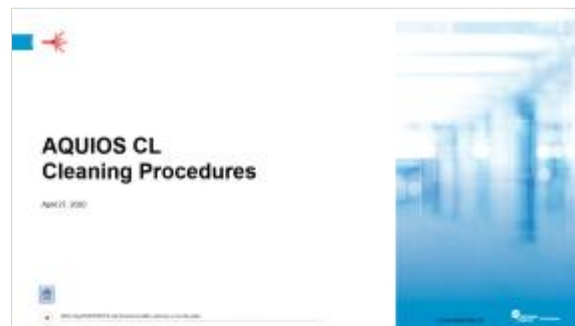
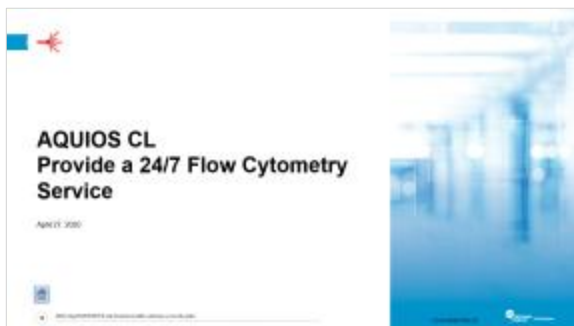
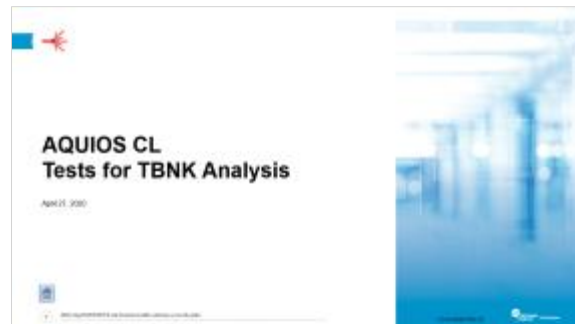
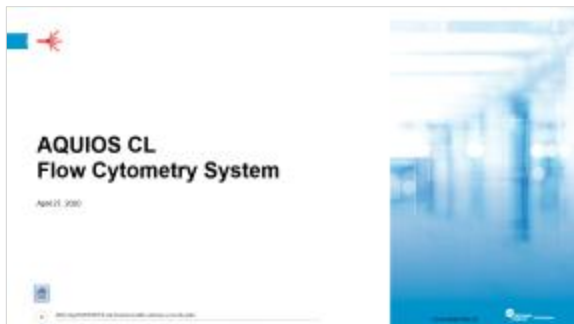
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Overview

Please click on one of the icons below to jump to this Chapter





AQUIOS CL Flow Cytometry System

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AQUIOS CL Summary

- The AQUIOS CL Flow Cytometry System incorporates the following features in one compact platform:
 - Automated sample loading,
 - Sample preparation,
 - Reagent management and barcode scanning,
 - as well as data analysis and bidirectional LIS connectivity





AQUIOS CL: Load & Go Flow Cytometry



AQUIOS

- Immune Phenotyping

LOAD & GO

- Load blood samples, and receive results*
- A flow cytometer where **sample loading is as easy as on a hematology analyzer**

PREPARES SAMPLES

- Performs the entire preparation process

FREES UP TIME

- User can focus on data review and validation of results

* Results require review by a qualified laboratory professional





AQUIOS CL: Available all Day, all Week



- **Random-access loading of samples** via cassette or single tube loader
- **On-board sample preparation** incl. pipetting of antibodies and lysis reagent
- **Bi-directional LIS link**
- **Comprehensive QC-Concept** (incl. CAP and UK-NEQAS proficiency testing schemes)
- **Automated system setup:** No dedicated daily setup reagents required
- **For In-Vitro-Diagnostic Use**





AQUIOS CL Tests for TBNK Analysis

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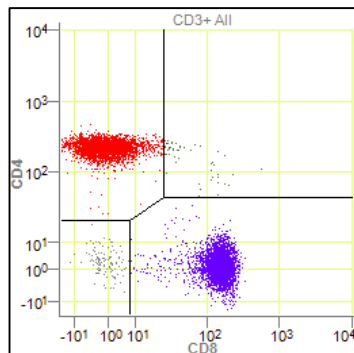




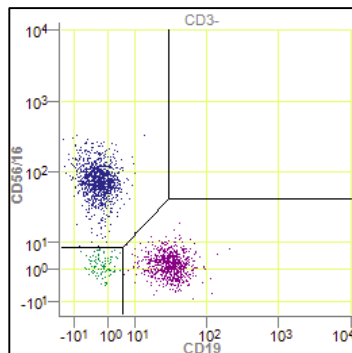
AQUIOS Tetra Tests for Automated Lymphocyte Subset Analysis



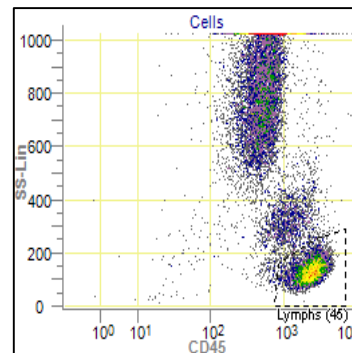
- AQUIOS Tetra system tests for simultaneous identification and enumeration of T, B, and NK lymphocytes in whole blood
- Single Platform Technology (SPT) for lymphocyte subset analysis and enumeration without the need for counting beads.
- AQUIOS Tetra-1 and AQUIOS Tetra-2+ are for In Vitro Diagnostic Use. AQUIOS CL with Tetra-1 has been accepted for the World Health Organization list of prequalified in vitro diagnostic products.



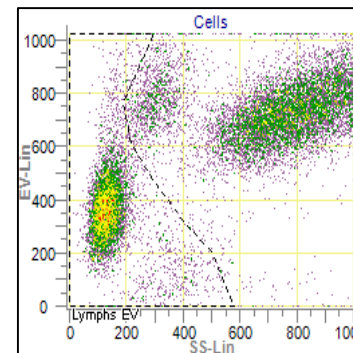
CD4 vs. CD8



CD19 vs. CD56+16



CD45 vs. SSC



SSC vs. EV

	FITC	PE	ECD	PC5
AQUIOS Tetra-1	CD45	CD4	CD8	CD3
AQUIOS Tetra-2+	CD45	CD56+16	CD19	CD3





AQUIOS Catalog Products and Controls

Name	PN	Panel	Status	Availability
AQUIOS Tetra-1	B23533	CD45/CD4/CD8/CD3	CE / IVD / WHO-PQ	North America, Europe, High-Growth Markets
AQUIOS Tetra-2+	B23534	CD45/CD56+16/CD19/CD3	CE / IVD	North America, Europe, High-Growth Markets
AQUIOS IMMUNO-TROL Cells	B23535	Process control (CD4 normal)	CE / IVD	North America, Europe, High-Growth Markets
AQUIOS IMMUNO-TROL Low Cells	B25700	Process control (CD4 low)	CE / IVD	North America, Europe, High-Growth Markets





AQUIOS CL

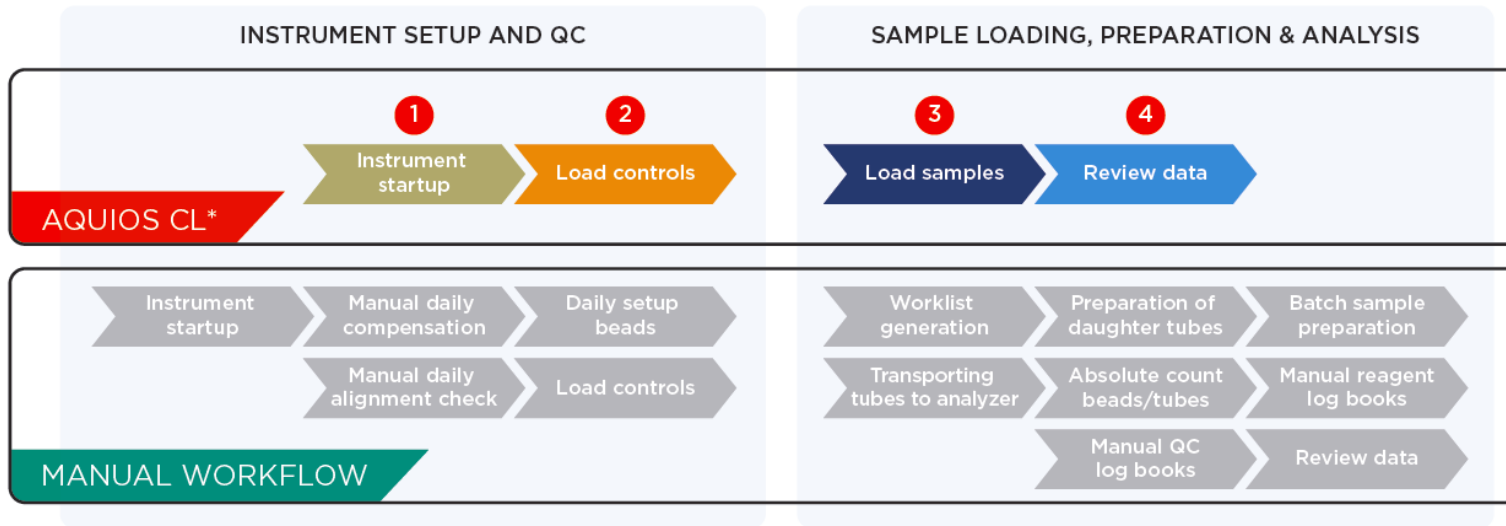
Reduce exposure to potentially biohazardous material

April 29, 2020





AQUIOS Reduces Steps that Require Manual Intervention



*Only steps that require manual intervention are shown

- **AQUIOS accepts closed primary blood sample tubes.**
- No additional sample preparation, personnel, liquid handling modules or robots are required.
- AQUIOS combines automated sample loading, sample preparation and cellular analysis into one compact system.





AQUIOS Accepts Closed Primary Blood Sample Tubes

- **Cassette autoloader**

- Cap piercing & mixing
- Various tube types & sizes
- Capacity: 8 cassettes/40 tubes
- Continuous loading/unloading



- **Single-tube loader**

- Open or closed vial sampling
- For additional tube sizes
- Stat sampling capability
- Manual mixing





AQUIOS CL Reduces Exposure to Potentially Biohazardous Material

- AQUIOS CL reduces exposure to potentially biohazardous material by...
 - Reducing the number of steps that require manual intervention
 - Accepting closed primary blood tubes
 - Cap piercing technology
 - Automated sample preparation
 - Touch screen operation



Double-click to open
embedded AQUIOS
brochure





AQUIOS CL

Provide a 24/7 Flow Cytometry Service

April 29, 2020





AQUIOS CL can be Run Safely by Less Experienced Operators

- AQUIOS CL allows to allocate staff resources for maximum productivity, by...
 - Providing a flow cytometry system where sample loading is as easy as on a hematology analyzer
 - Minimizing the potential for user error due to the reduction of steps that require manual intervention
 - Intuitive technology that requires less training

“Since it is so simple and intuitive, training my techs was a breeze. You could train them in less than an hour. So we were able to cross-train most of the techs in the area in very short time. That makes everything efficient in the laboratory.”

Alexandra Amador, MT (ASCP), CHT (ABHI), Manager
Histocompatibility Lab, University of Miami.



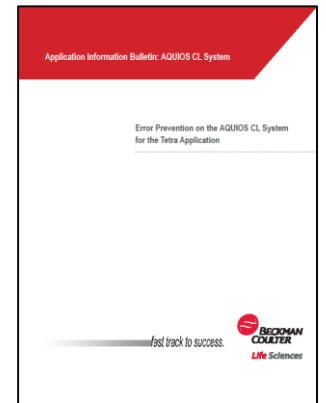
Watch the videos on how AQUIOS CL works on www.AquiosCL.com





AQUIOS CL Error Prevention Features

- AQUIOS CL employs several features that work to prevent errors throughout the entire workflow:
 - Automated scanning of specimen barcodes
 - The specimen ID is automatically tracked throughout the run
 - Barcoded reagents
 - Bidirectional connection to the Lab Information System (LIS)
 - Blood aspiration detection
 - Flow cell clogging prevention
 - Volumetric absolute counting without beads
 - Quality control checks for every sample



Double-click to open embedded Product Bulletin: Error Prevention on the AQUIOS CL System for the Tetra Application





AQUIOS CL Provides a 24/7 Flow Cytometry Service

- AQUIOS CL can help setting up a 24/7 Flow Cytometry service by...
 - Providing a flow cytometry platform that can be run by less experienced operators
 - Build-in error prevention features throughout the entire workflow
 - Barcode scanning and LIS connectivity that prevent intermixing of samples and/or reagents
 - Auto-gating features in the software
 - Reduced training effort



AQUIOS CL Cleaning Procedures

April 29, 2020





AQUIOS CL Cleaning Procedures

- For a complete overview of all cleaning procedures, please refer to **CHAPTER 10, Cleaning Procedures**, of the AQUIOS CL User Manual (PN B21896).

WARNING

Risk of possible biohazardous contamination. Adequate precautions and safety attire should be used when cleaning possible biohazard spills from the barcode reader. For details, refer to document “CLSI M29, Protection of Laboratory Workers from Occupational Infections.”

WARNING

Use barrier protection, including protective eyewear, gloves, and suitable laboratory attire. Refer to the Safety Data Sheet for details about chemical exposure before using the chemical.

WARNING

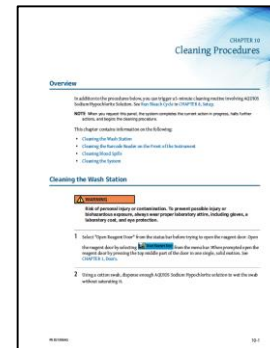
Risk of injury and biohazardous contamination if blood is spilled and not immediately and properly cleaned up. In the event of a blood spill, clean the area according to your laboratory protocol and follow all safety precautions.

WARNING

Risk of chemical injury from bleach. To avoid contact with the bleach, use barrier protection, including protective eyewear, gloves, and suitable laboratory attire. Refer to the Safety Data Sheet for details about chemical exposure before using the chemical.

WARNING

Risk of biohazard spill. Check the wash station overflow tray for spills during routine maintenance and after a wash station overflow and clean if necessary, to prevent any biohazardous contamination.



Double-click to open embedded document:
AQUIOS Cleaning Procedure





AQUIOS CL Cleaning Procedures

- At any time, it is possible to trigger a **5-minute cleaning routine** involving **AQUIOS Sodium Hypochlorite Solution**. See “Run Bleach Cycle” in CHAPTER 8, Setup, of the AQUIOS CL User Manual.
- Cleaning the **Wash Station**:
 - Open the reagent door
 - Using a cotton swab, dispense enough **AQUIOS Sodium Hypochlorite** solution to wet the swab without saturating it.
 - Wipe the stainless steel opened portion of the wash station, including the well and rim, with the swab.
- Cleaning the **Barcode Reader** on the front of the instrument:
 - Carefully wipe the barcode reader window with a soft, lint-free tissue containing **isopropyl alcohol**.
 - Verify that the barcode reader is able to scan the reagent information.





AQUIOS CL Cleaning Procedures

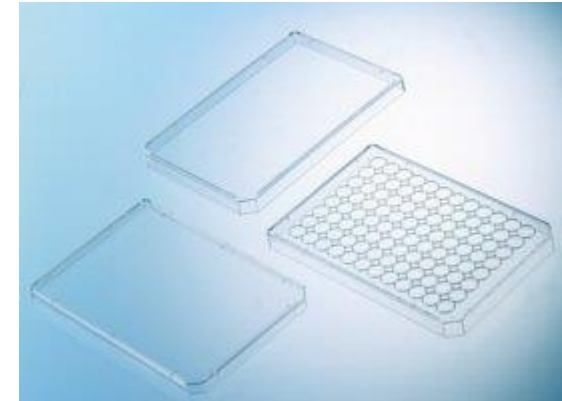
- Cleaning **Blood spills**:
 - Disinfect the area using a disinfectant solution according to your laboratory's procedures.
 - Dispose of all materials in your laboratory's biohazard waste containers.
 - Refer to CLSI/CCCLS document GP17 - Clinical Laboratory Safety for additional information.
- Cleaning the **System**:
 - Using wipes soaked with **10% bleach or sporicidin**, clean the **external surfaces** of the instrument.
 - If build up of **dried blood** is noticed in the probe wash station to the right of the reagent carousel, use a cotton swab soaked with **10% bleach or sporicidin** to clean it.
 - Check the **wash station overflow tray** for spills during routine maintenance and after a wash station overflow and clean if necessary, to prevent any biohazardous contamination.





AQUIOS CL Waste Management

- Installing the **Waste container**:
 - Before placing the waste container on the Supply Cart, add **1L** of high-quality, fragrance-free, gel-free **bleach** (5 to 6% solution of sodium hypochlorite - available chlorine) to the empty 10L waste container.
- Discarding the used **96 well Plate**:
 - Before removing the 96 well plate from the instrument, cover the plate with a fitting plate lid.
 - Plate lids can be obtained from your local laboratory equipment provider.



Handle laboratory waste like potentially biohazardous waste according to your laboratory's policies.



Your Questions, Please...

