# ASTar®

## – designed to save lifetimes

Q-LINEA

# Rapid AST Results Directly From Clinical Samples

A fully-automated system for rapid antimicrobial susceptibility testing (AST), Q-linea's ASTar cuts the diagnostic time for infectious diseases and delivers clinically-actionable results in hours instead of days.

Early information on bacterial pathogens and their antimicrobial susceptibility is of key importance for managing sepsis patients. Within approximately six hours, ASTar delivers true minimum inhibitory concentration (MIC) results directly from positive blood cultures and against the broadest panel. The AST Disc has over 330 chambers available for antimicrobials, covering both fastidious and non-fastidious pathogens, allowing optimal targeted therapy of antimicrobials. ASTar also combines high throughput with a user-friendly interface and load-and-go operation.

## Key features

**Phenotypic AST**

- Directly from positive blood cultures
- True MIC results in ~ 6 hours

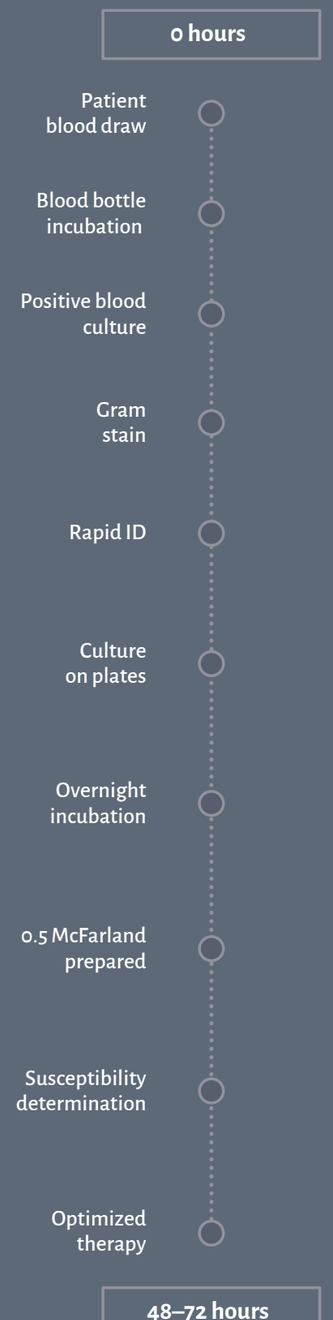
**Fully-automated analysis**

- 12 samples analyzed simultaneously, random-access
- Load-and-go workflow, less than 2 min hands-on time

**Comprehensive AST panel**

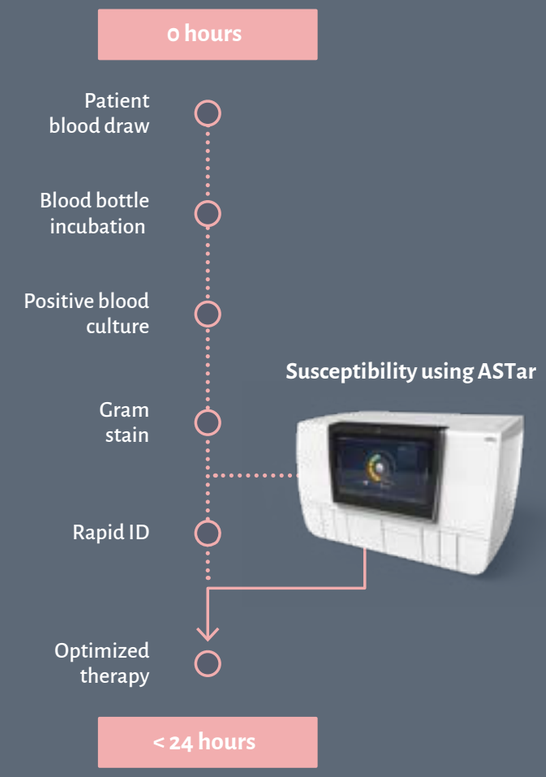
- 6–14 two-fold dilutions of each antimicrobial in panel
- Results generated from broth microdilution (CAMHB and fastidious)


## Traditional workflow




Workflow analysis performed by Q-linea at several European and US hospitals. Workflow may differ between laboratories.

## ASTar workflow




## ASTar meets your need for rapid and comprehensive AST

Several approaches for rapid pathogen identification (ID), e.g. molecular techniques and MALDI-TOF mass spectrometry, are available today. Our phenotypic AST solution can be combined with any of these rapid ID technologies, which augments current laboratory capabilities and meets the clinical need for more rapid results. Thanks to the broad AST panel, positive blood culture may be directly analyzed in the ASTar instrument without waiting for pathogen ID, delivering a comprehensive answer in just one test. Pathogen ID is only needed to create the final MIC results report.

# Three Simple Steps for Complete MIC Results

ASTar simplifies the analysis workflow: less than 2 minutes hands-on time is all that's needed. Simply transfer 1 ml of positive blood culture to the sample preparation Cartridge. Choose the AST Disc and load. Scan and load the Cartridge and tap the START RUN icon on the touch screen to start the run. Pathogen ID can be entered before, during or after the run to generate true MIC results.


**Choose AST Disc and load**

The AST Disc allows automated time-lapse imaging of bacterial population growth in wells containing different concentrations of antimicrobial agents.


**Scan and load Cartridge**

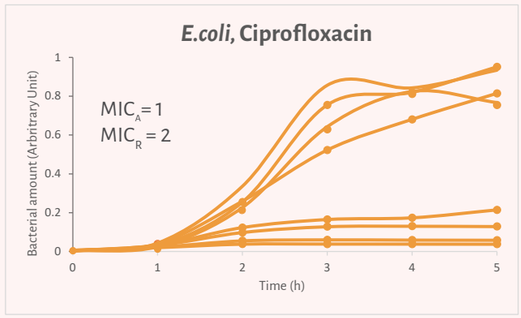
The sample preparation Cartridge automatically isolates bacterial cells from the sample matrix and adjusts the concentration for a controlled inoculation to the AST Disc.

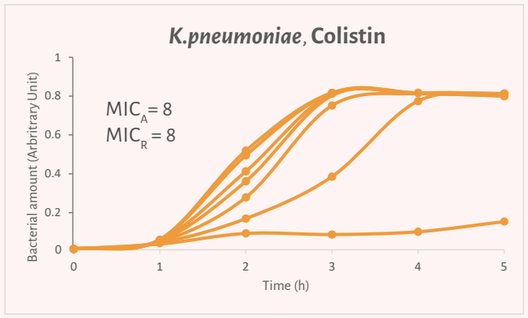

**Tap START RUN**

Proprietary algorithms translate visual information into MIC values. Based on antimicrobial breakpoints, MIC values are interpreted as S, I, or R.

### Time lapse microscopy to measure bacterial amount in broth microdilutions of antimicrobial agents

Bacterial amount plotted over time for two different bacterial samples (*E. coli* and *K. pneumoniae*), each tested against an antimicrobial (Ciprofloxacin and Colistin, resp.). Each curve represents bacterial amount in the presence of one specific concentration of the antibiotic, as measured during analysis with the ASTar System. In addition, for each AST, the resulting ASTar-MIC ($MIC_A$) and reference BMD MIC ($MIC_R$) are reported.




Bacterial amount plotted over time for human blood inoculated with two types of bacteria and tested against two antimicrobials. Each curve represents one concentration (mg/L) of antimicrobial agent. For each AST, ASTar MIC ($MIC_A$) and reference BMD MIC ($MIC_R$) are noted.

# ASTar - the Essentials

## The Cartridge & Frozen insert

The Cartridge contains all reagents and disposable articles needed for sample preparation, concentration determination, dilution and growth medium adaptation.

- Contains pre-deposited reagents.
- Generates controlled inoculum for AST.
- A Frozen insert is added to the Cartridge before use.
- Has barcodes for identifying and linking the Cartridge and patient sample.
- Cartridge stored at room temperature, frozen insert stored at –15° C to –25° C

## The Disc

The AST Disc is used for AST and concentration determination.

- Contains more than 330 culturing chambers with prefilled antimicrobials in various concentrations used for AST, chambers without antimicrobials used as controls, and chambers used to determine the concentration in the added sample.
- Contains unique barcode for identification and linking to each respective sample preparation Cartridge and patient.
- Stored at room temperature.

ORDERING INFORMATION

| ARTICLE | CATALOGUE # | DESCRIPTION |
|---|---|---|
| **ASTar Instrument** | 5000 3135 | ASTar Instrument, including instrument computer-software and application computer software. |
| **ASTar BC G– Consumable Kit (20 units)** | 5000 3905 | ASTar BC G– Consumable kit contains sample preparation Cartridge and AST Disc. |
| **ASTar BC G– Frozen insert (20 units)** | 5000 3855 | ASTar BC G– Frozen insert contains frozen reagents for sample preparation to be inserted in Cartridge before use. |

For more information and personalized quote,
contact us at: **sales@qlinea.com**

# Save lifetimes

Q-linea is an innovative infection diagnostics company that primarily develops instruments and disposables for rapid and reliable infection diagnostics. Our vision is to help save lives by ensuring antibiotics continue to be an effective treatment for future generations. Q-linea develops and delivers preferred solutions for healthcare providers, enabling them to accurately diagnose and treat infectious disease in the shortest possible time.

Q-linea was founded in 2008 by scientists from the Rudbeck Laboratory at Uppsala University, together with Olink AB and Uppsala University's holding company, UUAB. Today, Q-linea comprises an interdisciplinary, highly motivated team that operates out of state-of the-art, customised facilities in Uppsala.

**www.qlinea.com**



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