



# URINE CULTURE



## A MODERN TECHNOLOGY FOR A TRADITIONAL CULTURE

Urinary Tract infections (UTI's) are considered to be one of the most common human bacterial infections second only to respiratory infections. Women are especially prone to UTI's, 1 in 5 will develop a UTI during her lifetime. The incidence of UTI's increases with the presence of diabetes, malformations of the urinary tract system as well as with age. UTI's are also the most common nosocomial infections mostly linked to urethral catheters and invasive diagnostic procedures.

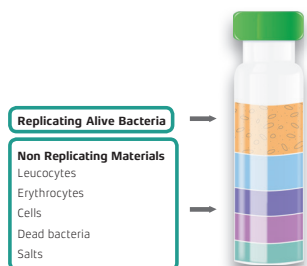
## LIGHT SCATTERING TECHNOLOGY APPLIED TO URINE CULTURE

- 1 **Sidecar, Alfred 60<sup>AST</sup>** and **HB&L** are the first automated systems for the **rapid urine culture** with **high sensitivity and specificity**<sup>(1,2)</sup>.
- 2 Using the patented technology based on light scattering they are able to monitor the **intense bacteria replication activity** from the inoculum step into specific culture broths providing **real time growth curves**.
- 3 Quantitative **bacterial count results** are reported in **CFU/ml**.
- 4 Strong positive samples are flagged after only **45 minutes** of incubation. The **positive threshold** can be customized according to the sensitivity requirements of the laboratory and patient.
- 5 **Three analytical protocols** are available: Fast, Standard and Boric Acid setting.
- 6 A specific **eugonic broth** has been developed to guarantee **optimized aerobic pathogen bacteria growth**.
- 7 Broths are in **aseptic vials with pierceable hermetic seals**, thus considerably reducing contaminations.
- 8 Samples are incubated at **37°C** and **constantly mixed** avoiding sedimentation, flotation and growth anomalies typical of several micro-organisms.
- 9 Only **live bacteria** are detected while interference from non replicating substances such as erythrocytes, leucocytes, dead cells and salts present in the sample are eliminated during the initial zero reading.



URO-QUICK SCREENING KIT Code SI 390.900  
AUTOMATION KIT Code SI 1201.900

## ONLY LIVE BACTERIA ARE DETECTED

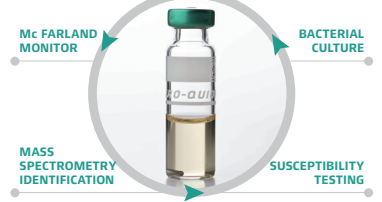


## CUSTOMIZABLE PROTOCOLS WITH DIFFERENT INCUBATION TIMES AND CUT-OFFS

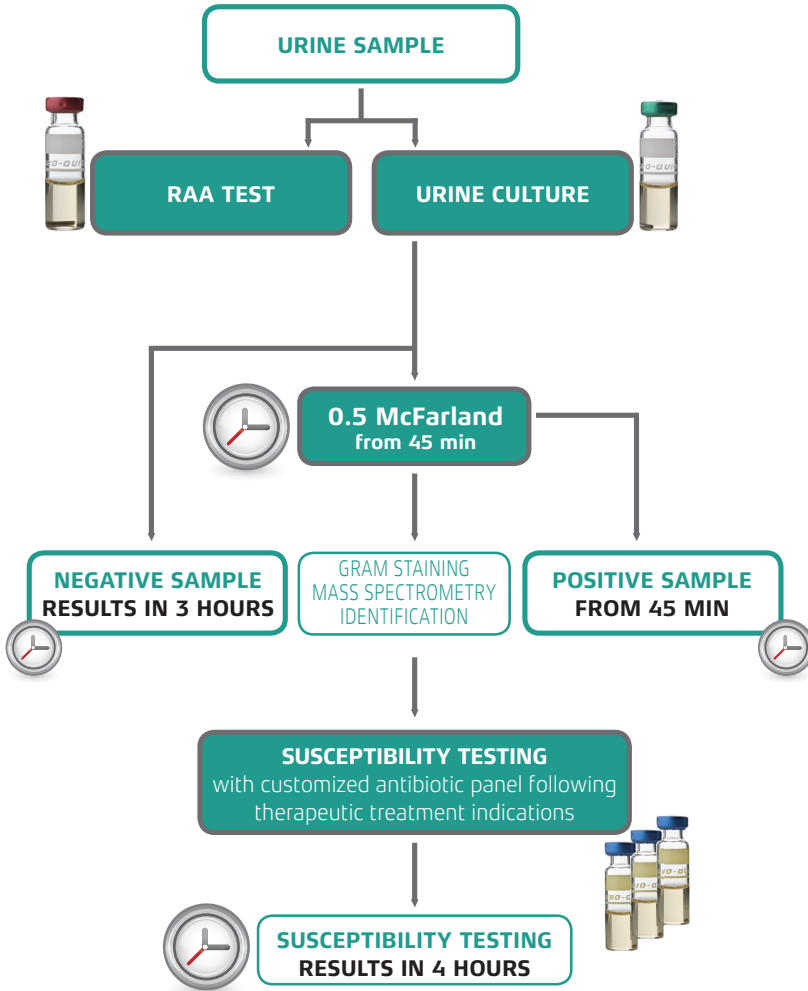
INCUBATION TIME (min)	FAST PROTOCOL (URINE ONLY) THRESHOLD (CFU/ml)	STANDARD PROTOCOL (URINE or HBL) THRESHOLD (CFU/ml)
70	1.000.000	20.000.000
80	500.000	12.000.000
110	100.000	2.000.000
120	<b>DEFAULT 50.000</b>	1.000.000
140	15.000	300.000
145	10.000	200.000
160	-	100.000
180	-	<b>DEFAULT for URINE 30.000</b>
190	-	15.000
235	-	1000
275	-	100
290	-	50
290-360	-	<b>DEFAULT for HBL &lt;50</b>

## PERFORMANCE IN DIFFERENT PUBLICATIONS

Author	Year	N° samples	Sensitivity %	Specificity %	PPV %	NPV %	Agreement
Rif 1	1995	1126	96,3	99,7	99,4	98,1	98,6
Rif 2	1997	642	93,24	98,76	98,76	99,11	98,28
Rif 3	2008	755	98,5	97,5	97,09	98,78	98,01
Rif 4	2013	1500	99,8	90,0	99,9	83,6	93,3



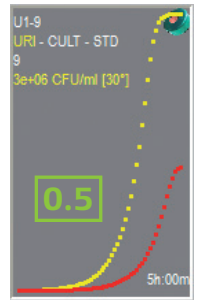
## URINE CULTURE



## McFARLAND MONITOR

The **McFarland Monitor** is a new instrument application that monitors the turbidity levels of positive samples during the bacterial culture test.

A visual and audible alert advises the Operator when the sample reaches the suitable bacteria concentration at 0.5 McFarland to perform the direct susceptibility testing.



## Advantages

- **1 test 2 results:**  
**Urine culture result + 0.5 McFarland sample**
- The positive sample can be immediately tested with a customized antibiotic panel following therapeutic treatment indications without waiting the analysis end and further dilution steps.
- The use of a bacterial culture in a logarithmic phase reduces the stress conditions and the mutations that could occur when bacteria reach the stationary phase.



### URO-QUICK SCREENING KIT Code SI 390.900

- 360 Green cap disposable glass vials
- 360 Plastic disposable dedicated tips
- 15 Blotting paper strips
- 1 MicCARD

#### SHELF LIFE

From production: 14 months

#### STORAGE CONDITIONS

Room temperature (+4+30°C)

#### RELATED KIT

URO-QUICK R.A.A. Kit  
Code SI 390.901



### AUTOMATION KIT Code SI 1201.900

- 360 Silver cap disposable glass vials
- 1 MicCARD

#### SHELF LIFE

From production: 20 months

#### STORAGE CONDITIONS

Room temperature (+4+30°C)

#### RELATED KIT

R.A.A. BACTERIAL PACK  
Code SI 190.902  
AST KITS for automation



### POSITIVE CONTROL KIT Code SI 190.911

- 3 vials with Lyophilized Microorganism
- 3 Reconstituting solution

#### SHELF LIFE

From production: 14 months +2+8 °C

From reconstitution: 30 days at -20° C

#### STORAGE CONDITIONS

Before reconstitution: +2+8 °C

After reconstitution: -20 °C

#### Bibliography

- 1 - Sgro O. et al. (Mic Inst Genova University, Italy) Performance of a new Automated method for the detection of bacteriuria 7th ECCMID 1995
- 2 - Russo I. et al. (Microbiology Laboratory, Niguarda Hospital, Milan, Italy), "Evaluation of Automated Bacteriuria Screening System in Samples Collected in the Presence of Bacteriostatic Substances", Poster, 8th ECCMID, Lausanne, Switzerland, May 25-28, 1997.
- 3 - L. Ricci (Laboratory of Microbiology A.O.S.M. Nuova, Reggio Emilia, Italy) "L'automazione delle urinocolture nuovi percorsi diagnostici ed organizzativi" SIMPIOS, Grado, 7-9 April 2008.
- 4 - Carpi D. et al. (Microbiology Laboratory ASL TO3, Pinerolo TO, Italy) Evaluation of Quick Automated Bacterial Culture Associated With Chemical Physical Examination and Urinary sediment: Workload Reduction, Reduced Time for Identification and Increased Sensitivity ECCMID 2013
- 5 - Athamna K. et al. (Microbiology laboratory and Pharmacy, Hillel Yaffe Medical Center, Hadera, Israel) Rapid automated diagnosis of urinary tract infection regulates the use of antibiotics in obstetrics& gynecology department, Poster, ECCMID Copenhagen 2015