Sawa University

Advanced laboratory technique

BACTERIAL DIAGNOSIS (VITEK SYSTEM) & BACT AUTOMATED SYSTEM

Sawa University	جامعـــــة ســـــاوة الاهلية
College of health and medical techniques	كليـــــة التقنيـــات الصحيـة والطبيـة
Department of Medical Laboratories	قسم تقنيات المختبرات الطبية
. Stage third	المرحلـــــــــــة/ الثالثه

محاضرة رقم: 1

[1] Lecture No 1:

Practical

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(introduction)

OBJECTIVE :

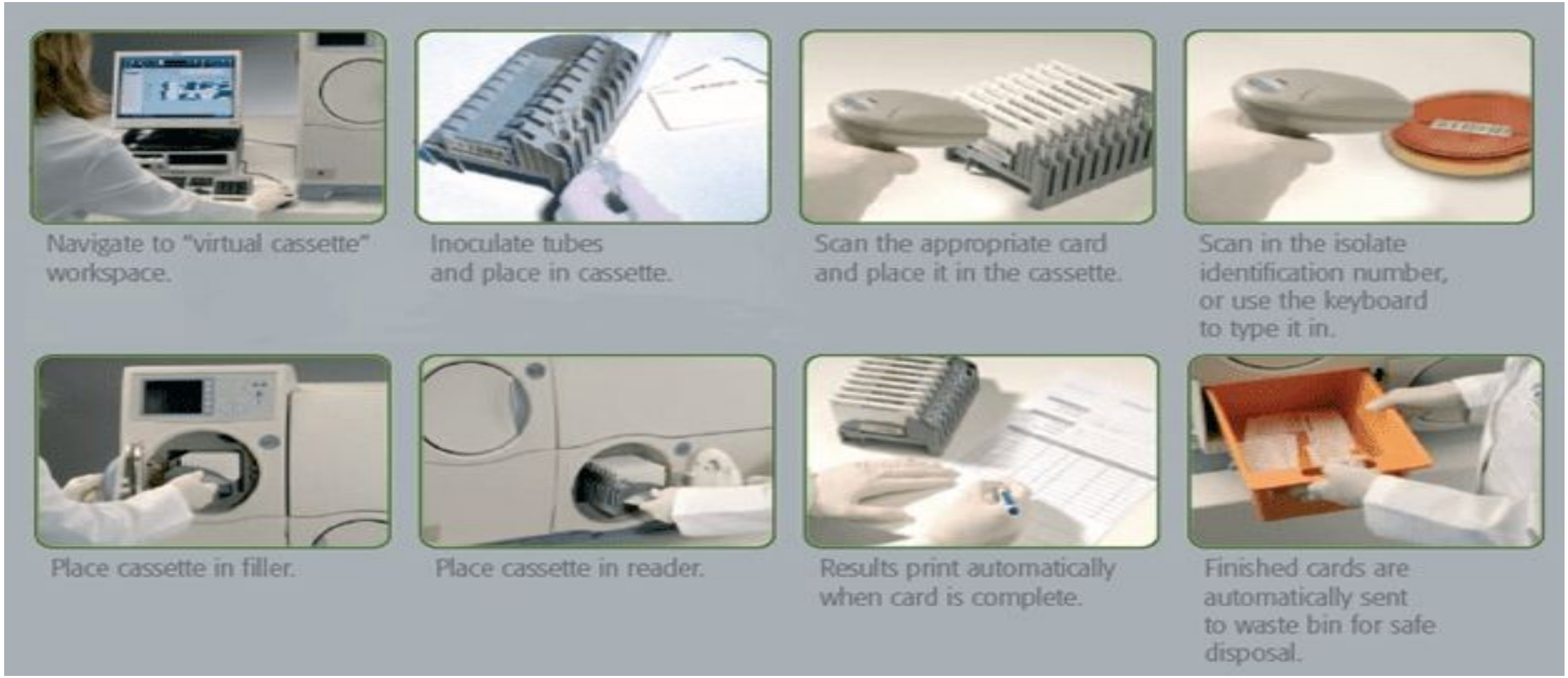
- **VITEK SYSTEM CONSIST**
- **STEPS OF WORK VITEK SYSTEM**
- **RESULT VITEK SYSTEM**

BACT AUTOMATED SYSTEM

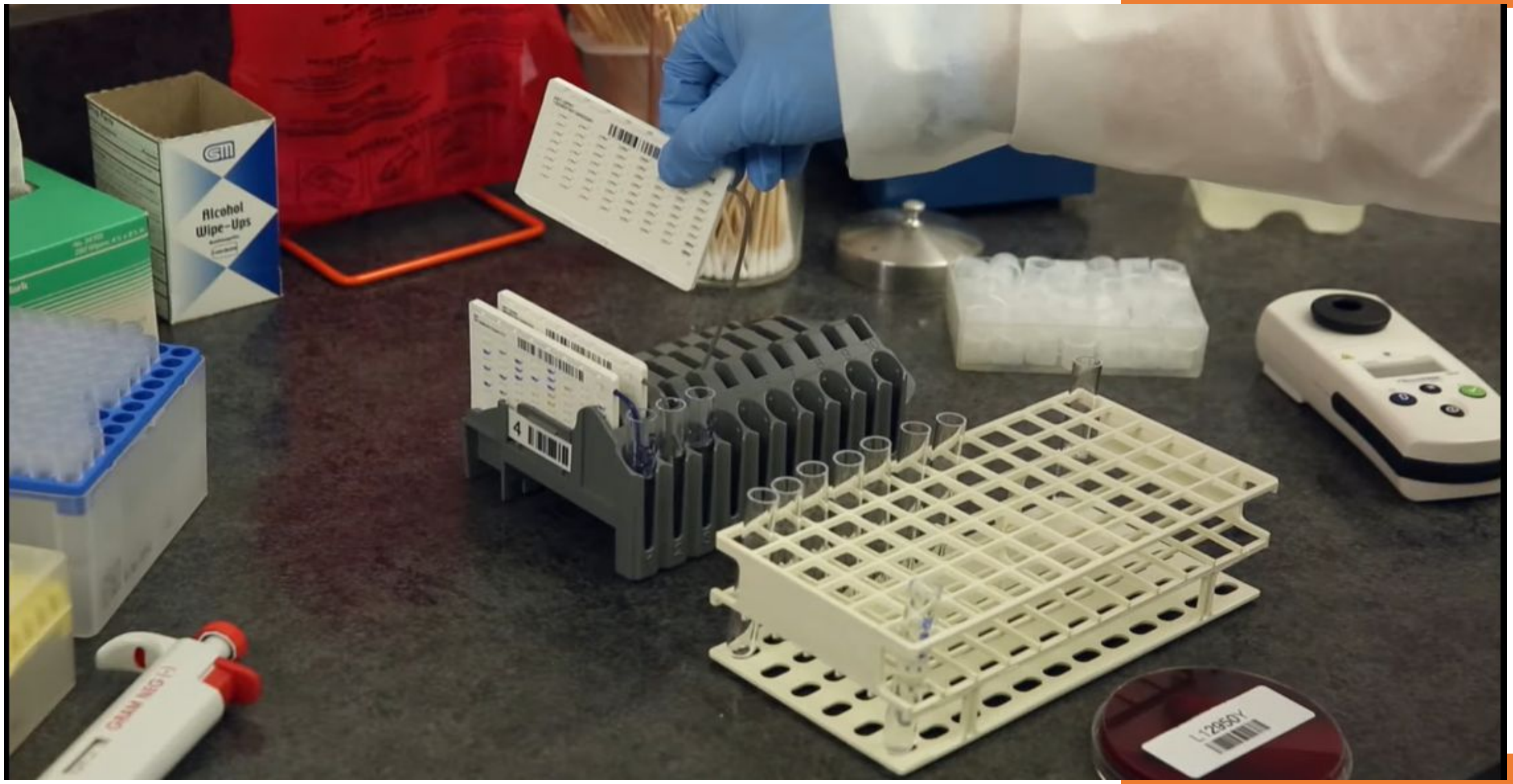
- **PURPOSE BACT AUTOMATED SYSTEM**
- **METHOD BACT AUTOMATED SYSTEM**

VITEK system

VITEK system Fully automated system that performs bacterial identification and .antibiotic susceptibility testing



Workflow pattern using the VITEK automated compact system for microbial identification and .antimicrobial susceptibility test (AST)


Alcohol
Wipe-Ups

VITEK system consist:

1) **Identification card**
   (ID card) 47 biochemical tests
   - Card for GN
   - Card for GP
   - Card for Yeast

2) **Antimicrobial susceptibility test card (AST card)**
- 22 antibiotics
- MIC (Minimum Inhibitory Concentration)

Steps of work VITEK system
1-Organism isolation (Pure)

2-Bacterial suspension (2 tubes)

for (ID card) 1
for (Antibiotic susceptibility test) 2

Measure turbidity (0.5-0.63)-3

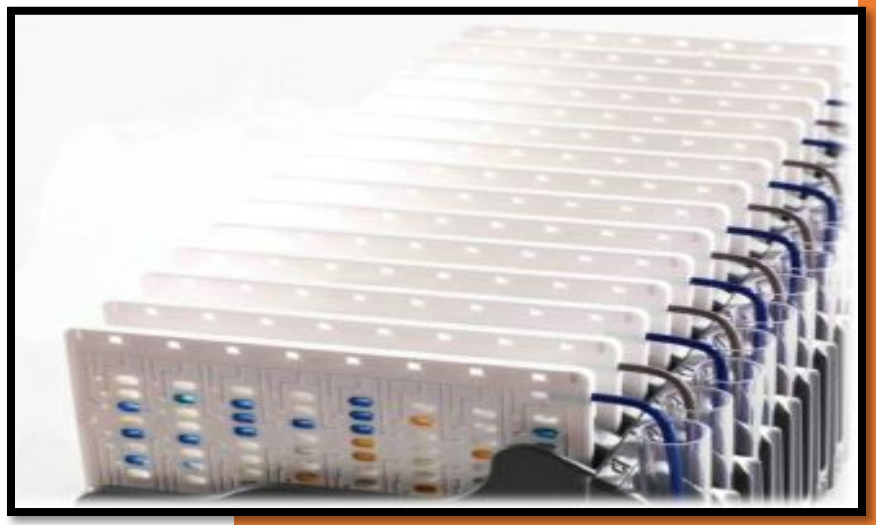
- DensiChek plus

Insert cards in bacterial Suspension tubes -4

5-Into the filling room (Transfer the bacterial suspension into the wells).

6-Transfer the cassette in the loading room (Diagnostic) 5-10hrs

7-Colorimetric(Barcode)



Result VITEK system

bioMéricux Customer:

Microbiology Chart Report

Printed April 9,2022 2:30:52 PM CST

Patient Name: moataz doctor
Location:
Lab ID: M6

Patient ID:dr
Physician:
Isolate Number:1

Organism Quantity:
Selected Organism :Bacillus cereus
Source : BCL

Collected:

Comments:	

Identification Information	Analysis Time:	13.80 hours	Status:	Final
Selected Organism	99% Probability	Bacillus cereus		
	Bionumber:	1227001144446621		
ID Analysis Messages				

Biochemical Details

1	BXYL	(+)	3	LysA	-	4	AspA	-	5	LeuA	–	7	PheA	+	8	ProA	-
9	BGAL	-	10	PyrA	+	11	AGAL	-	12	AlaA	(+)	13	TyrA	+	14	BNAG	+
15	APPA	-	18	CDEX	-	19	dGAL	-	21	GLYG	-	22	INO	-	24	MdG	-
25	ELLM	+	26	MdX	-	27	AMAN	-	29	MTE	(+)	30	GlyA	(-)	31	dMAN	-
32	dMNE	-	34	dMLZ	-	36	NAG	+	37	PLE	-	39	IRHA	-	41	BGLU	+
43	BMAN	-	44	PHC	-	45	PVATE	(+)	46	AGLU	(-)	47	dTAG	-	48	dTRE	+
50	INU	-	53	dGLU	+	54	dRIB	+	56	PSCNa	-	58	NaCl 6.5%	+	59	KAN	+
60	OLD	-	61	ESC	+	62	TTZ	(-)	63	POLYB I	+						

BACT automated system

Used for detecting the presence or absence of microorganisms in Blood

Purpose

Bacteremia infections, Ex:

- Typhoid fever
- Endocarditis
- Puerperal sepsis
- Brucellosis

Methods

Specimen3ml blood to 30 ml broth For child •

• 10 ml blood to 40 ml broth for Adult (anerobic)

• 10 ml blood to 40 ml broth for Adult (anerobic)

• 10 ml blood & 30 ml broth Dilutes antibacterial Provides good nutrient (organism present in small number)

Methods

- Incubation 5 to 21 days

Methods

Organism present
Consume nutrients CO_2
Released CO_2
reacts with sensor
Light appears
Sub culture & incubate,
at 37°C for 24h.
Identification
Susceptibility test

Any questions?