



محاضرة رقم: 1

¹ Lecture No 1:

Practical

Advanced laboratory technique

BACTERIAL DIAGNOSIS (VITEK SYSTEM) & BACT AUTOMATED SYSTEM

Sawa University

College of health and medical techniques

Department of Medical Laboratories

. Stage third

جامعة ساوة الاهلية

كلية التقنيات الصحية والطبية

قسم تقنيات المختبرات الطبية

المرحلة / الثالثة

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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





Navigate to "virtual cassette" workspace.



Inoculate tubes and place in cassette.



Scan the appropriate card and place it in the cassette.



Scan in the isolate identification number, or use the keyboard to type it in.



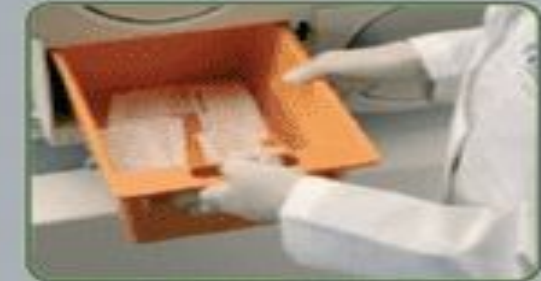
Place cassette in filler.



Place cassette in reader.

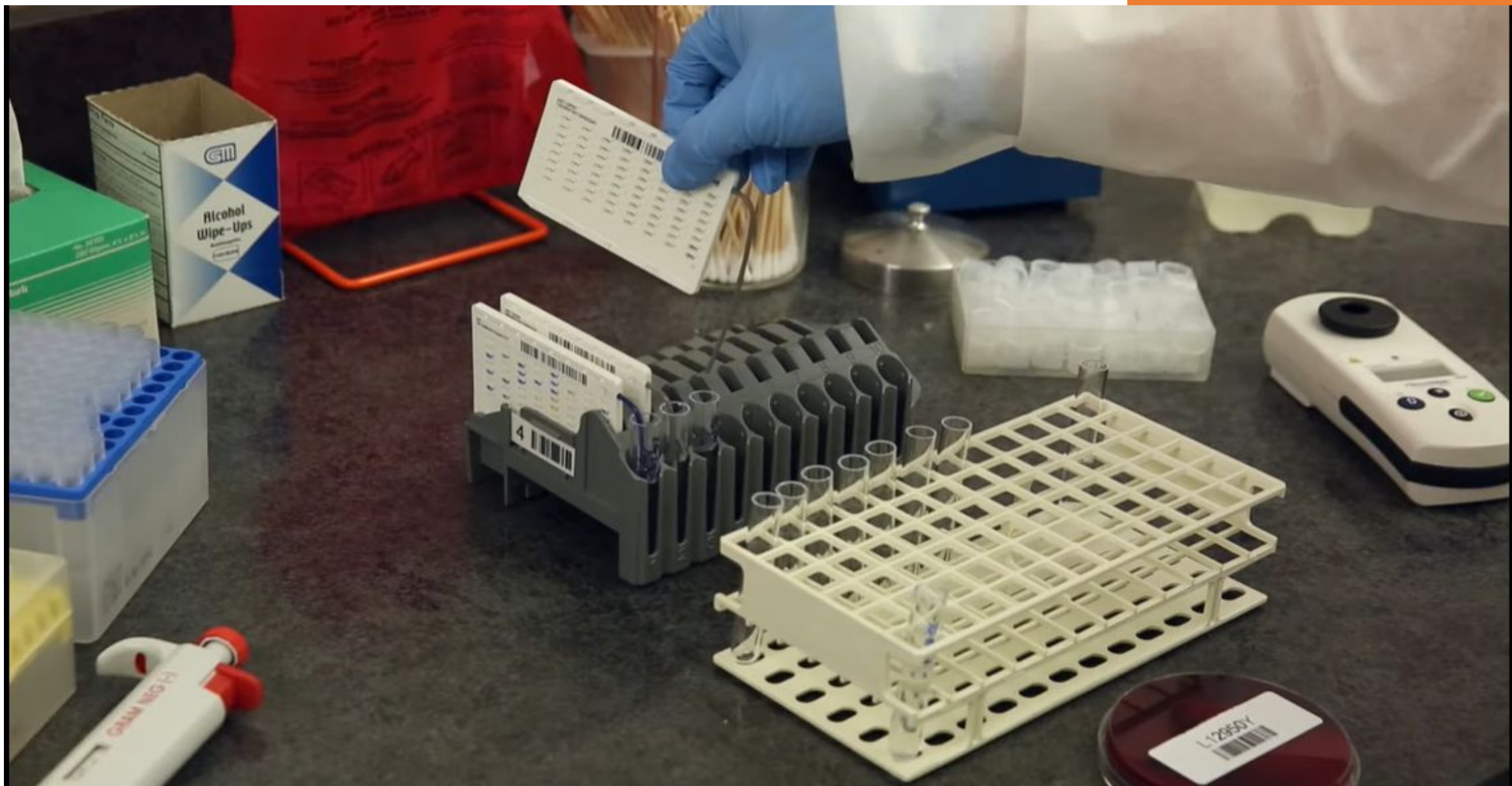


Results print automatically when card is complete.



Finished cards are automatically sent to waste bin for safe disposal.

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



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



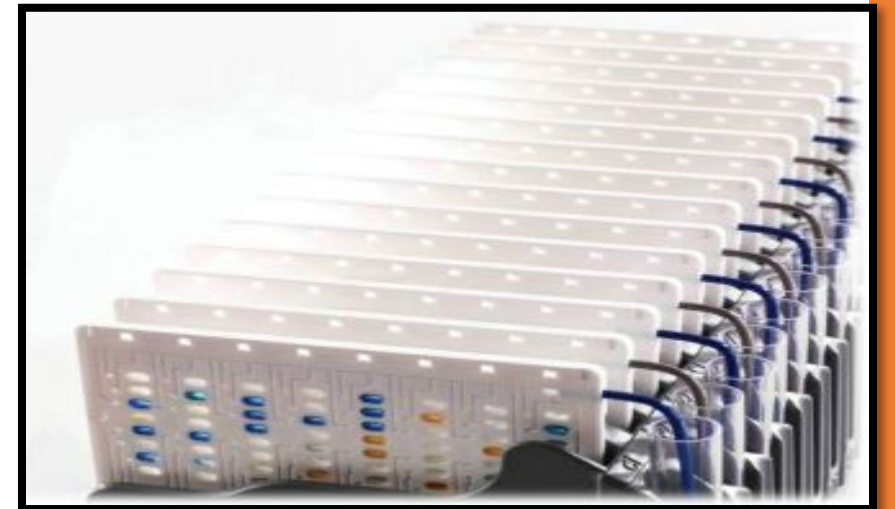
Measure turbidity (0.5-0.63)-3

- DensiChek plus



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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

bioMérieux Customer:

Microbiology Chart Report

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

Patient Name: moataz doctor

Patient ID:dr

Location:

Physician:

Lab ID: M6

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
ID Analysis Messages	Bionumber:	1227001144446621

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



Specimen 3ml 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?



*Thank
You*