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Advanced Bacteriological Studies On Toxigenic Strains of *Staphylococcus aureus* Isolated From Cattle

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English abstract

This study was designed to throw spot lights upon *S.aureus* isolated from raw cattle milk, biochemical and In-Vitro anti-microbial sensitivity for it with special reference to some virulence genes, antibiotic resistance genes and MRSA strains.So, the present study was performed on a total of 300 milk samples from small scale producers and farms in Damietta governorate. The incidence of *S.aureus* in the examined samples in 33.3%.The results of antibiotic sensitivity tests for *S.aureus* revealed that there is resistance to penicillin, oxacillin, cefoxitin, norfloxacin and oxytetracycline antibiotics. PCR results revealed that presence of virulence genes (*coa, hlg, tsst-1*) in examined isolates. Also, the presence of antibiotic resistance genes in examined isolates (*blaZ, tetK, norA*) and detection of enterotoxins by PCR revealed the presence of *Seb* in tested isolates but no other enterotoxins were detected. Also, PCR detected *mecA* gene in MRSA strains and its relationship to *Seb* gene.

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LIST OF ABBREVIATIONS

Abbreviation	Means
Agr	Accessory gene regulator
AK	Amikacin
AMC	Amoxycillin+ Clavulinic acid
BPA	Baired Parker Agar
C	Chloramphenicol
C.P.*S. aureus*	Coagulase positive *Staphylococcus aureus*
CL	Cephalexin
Coa	Coagulase factor
DNA	Deoxy ribonucleic acid
DNase	Deoxy ribonuclease
hIy A	Haemolysin gene
MRSA	Methicillin Resistant Staphylococcus aureus
MSA	Mannitol salt agar
P	Penicillin
PB	Polymyxin
PCR	Polymerase Chain Reaction
S.aureus	Staphylococcus aureus
SAM	Ampicillin+sulbictam
Scc mec	Staphylococcus chromosomal cassette mec
Se, A,B,C,D,E	Enterotoxin A,B,C,D,E
SEP	Staphylococcal food poisoning
spa	Superfacial protein A

TCT	Tube coagulase test
TNase	Thermonuclease
TSST-1	Toxic shock syndrome toxin-1
V.P test	Voges-proskauer test
AMP	Ampicillin
OX	Oxacillin
OT	Oxytetracyclin
NOR	Norfloxacin
E	Erythromycin
S	Streptomycin
CEP	Cefoperazone
SXT	Sulpha+ trimethoprim