

## Abstract

An attempts aimed to join the good efforts of the team of biological control being done in Egypt for controlling the lepidopterous pest *S. littoralis*, 11 *B. thuringiensis* isolates have been isolated from different governorates in Egypt, subjected to characterization and identification by bioassay and PCR technology, using universal and specific primers to predict the presence of the cryIAC gene. Plasmid and RFLP patterns have been made to the isolates that have been reacted positively with bioassay and PCR to offer a characteristic fingerprint for the *B. thuringiensis* isolates of interest.

The insectillcidal crystal protein gene cryIAC from field collected isolate *B. thuringiensis* K<sub>1</sub>, was cloned into pUC 19 vector, a library was constructed and the clone of interest was detected using non-radio active labeled digoxigenin oligonucleotide– probe specific for cryIAC gene.

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### **Arabic Summary**

## List of abbreviation

A	Adenine
<i>A</i>	<i>Agrobacterium</i>
<i>B.t</i>	<i>Bacillus thuringiensis</i>
Bp	Base pair
BSA	Bovin serum albumin
CaCl <sub>2</sub>	Calcium chloride
Cry	Crystal
C	Cytosine
DATP	Deoxy adenine triphosphate
DCTP	Deoxy cytosine triphosphate
DGTP	Deoxy guanine triphosphate
DNase	Deoxy nuclease
DNTP	Deoxy nucleoside triphosphate
DNA	Deoxy ribonucleic acid
DTTP	Deoxy thiamine triphosphate
DIG	Digoxigenin
DIG-ddVTP	Digoxigenin labeled dideoxyuridine triphosphate
d.d	Double distilled
DsDNA	Double stranded deoxynucleic acid
EDTA	Ethylene diamine tetraacetic acid
G	Gram
G	Guanine
HCl	Hydrochloric acid
ICP	Insecticidal crystal protein
IPTG	Isopropyl thio-β-D-galactoside
Kb	Kilo base
KCl	Potassium chloride
KDa	Kilo dalton
LB	Luria bertani
MgCl <sub>2</sub>	Magnesium chloride
MnCl <sub>2</sub>	Manganese chloride
M	Molar
Mw	Molecular weight
NaCl	Sodium chloride

NaOH	Sodium hydroxide
OD	Optical density
PCR	Polymerase chain reaction
<i>P.</i>	<i>Pseudomonas</i>
Rf	Relative front
RFLP	Restriction fragment length polymorphism
RPM	Revolution per minute
RNase	Ribo nuclease
SSC	Saline sodium citrate Buffer
Sm	Small
SDS	Sodium dodecyl sulphate
<i>S. littoralis</i>	<i>Spodoptera littoralis</i>
<i>Taq</i>	<i>Thermus aquaticus</i>
T	Thiamine
TAE	Tris-acetate-EDTA-Buffer
TE	Tris-EDTA
Tris	2-amino-2-(hydroxymethyl)-1,3-propane diol
UV	Ultra violet
W/V	Weight per volume
x-gal	5-bromo-4-chloro-3-indolyl- $\beta$ -D-galactopyranoside