Ain Shams University
Faculty of Pharmacy
Microbiology & Immunology Dept.

"A Study on the Bacterial Production of Phospholipases C with Potential Industrial Application"

A Thesis

Submitted in Partial Fulfillment of the Requirments for the

Doctor of Philosophy Degree

In
Pharmaceutical Sciences
(Microbiology and Immunology)

By

Nooran Mohamed Sherif Elleboudy
Master's of Pharmaceutical Sciences (Microbiology and Immunology), Faculty of Pharmacy, Ain Shams University, 2009.

2016

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2016

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Nooran Sherif Elleboudy

List of Abbreviations

Abbreviation	Definition
ANOVA	Analysis of Variance
APS	Ammonium Persulfate
B.	*Bacillus*
BBD	Box-Behnken Design
BSA	Bovine Serum Albumin
Bt	*Bacillus thuringiensis*
CAGR	Compound Annual Growth Rate
CBB	Coomassie Brilliant Blue
CCD	Central Composite Design
CMC	Critical Micelle Concentration
CSL	Corn Steep Liquor
CV	Coefficient of Variation
DAG	Diacyl Glycerol
DCW	Dry Cell Weight
DF	Degrees of Freedom
DO	Dissolved Oxygen
DPA	Diphenylamine
Exp.	Experiment
FA	Fatty acid
GRAS	Generally Regarded As Safe
IcP	Inositol cyclic Phosphate
MAG	Monoacyl Glycerol
MS	Mean of Squares
NHP	Non Hydratable Phospholipid
NOAEL	No Observed Adverse Effect Level
NPPC	p-Nitrophenylphosphorylcholine
OFAT	One-Factor-at-a-Time
Opp	Oligopeptide Permease
PA	Phosphatidic Acid
PAGE	PolyAcrylaminde Gel Electrophoresis
PapR	PLC Associated Protein Regulator
PC	Phosphatidylcholine
PCA	Perchloric acid
PC-PLC	Phosphatidylcholine-Preferring Phospholipase C

Abbreviation	Definition
PE	Phosphatidylethanolamine
PG	Phosphatidylglycerol
Pi	Inorganic Phosphate
PI	Phosphatidylinositol
PI-PLC	Phosphatidylinositol-Specific Phospholipase C
PLC	Phospholipase C
PlcR	Phospholipase C Regulator
ppm	Parts per million
PS	Phosphatidylserine
R^2	Coefficient of determination
RPM	Revolution Per Minute
RSM	Response Surface Methodology
SAR	Structure Activity Relationships
SBM	Soy Bean Meal
SDS	Sodium Dodecyl Sulfate
SM	Sphingomyelin
SmF	Submerged Fermentation
Sqrt	Square root
SS	Sum of Squares
SSF	Solid State Fermentation
TEMED	Tetramethylethylenediamine
TPBM	Tris Peptone Beef extract Malt extract
V	Volt
vvm	volume of air per volume of liquid per minute
WB	Wheat bran

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