BIOCHEMICAL STUDIES OF BETA GALACTOSIDASE FROM SOME YEASTS

A THESIS

Submitted to the Botany Department
Women's College
Ain Shams University

For
The Requirement of the Degree of
DOCTOR OF PHILOSOPHY
IN SCIENCE
(Botany)

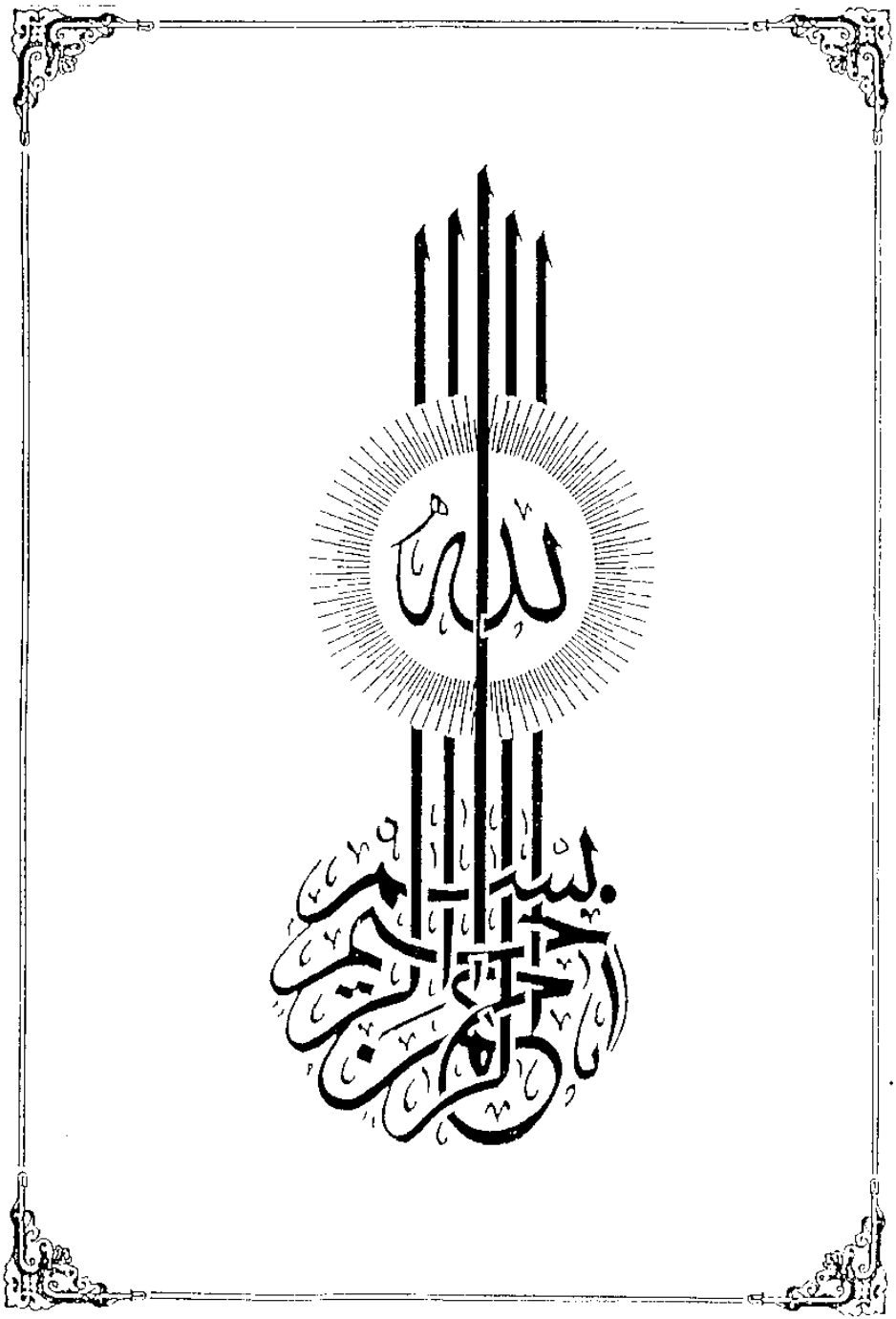
By

SANAA MOHAMED ASHOUR SAID
Assistant Lecturer, Botany Department
Women's College
Ain Shams University
B.Sc. 1977

1992

وقل اعملوا فسيرى الله عملكم ورسوله والمؤمنون

- صدق الله العظيم -



APPROVAL SHEET

Name: SANAA MOHAMED ASHOUR SAID.

Title: BIOCHEMICAL STUDIES OF β-GALACTOSIDASE FROM SOME YEASTS.

Scientific degree : Ph.D.

This thesis has been approved by supervisors:

Dr. AHMED IBRAHIM EL-DIWANY.
Professor of Microbial Chemistry,
Department of Chemistry of Natural and Microbial Products, National Research Centre.

Dr. ZEINAB HASSAN KHEIRALLA.
Assistant Professor of Microbiology,
Women's College
Ain Shams University.

Dr. AZHAR ABD EL-KAREEM.
Lecturer of Microbiology,
Women's College
Ain Shams University.

Date of Research : 8 / 12 / 1990.

ABSTRACT

The work included three parts:

Part one : Screening of yeast cultures for β-galactosidase production.

Part two : Studying the best cultural conditions for enzyme production by *Candida pseudotropicalis* and its extraction.

Part three: Studying the purification, physical and chemical properties.

"THANKS TO OUR MIGHTY GOD FOR

HIS CONTINUOUS SUPPORT TO ME"

ACKNOWLEDGEMENT

I wish to express my deepest thanks, sincere gratitude and appreciation to professors:

1- Dr. AHMED I. EL-DIWANY, Professor of Chemistry of Natural and Microbial Products, National Research Centre,

2- Dr. ZEINAB H. KHEIRALLA, Assistant Professor of Botany Department, Women's College, Ain Shams University,

3- Dr. AZHAR A. HUSSAIN, Lecturer of Botany Department, Women's College, Ain Shams University,

for suggesting the problem, supervision, constructive criticism, valuable discussion and sincere help during this work.

Thanks are also to the members for their encouragement and help me in this work:

1- Dr. AMAL A. SHEHAB, Head of the Botany Department, Women's College, Ain Shams University.

2- The staff members and colleagues of the Botany Department, Women's College, Ain Shams University and the Department of Chemistry of Natural and Microbial Products, National Research Centre.

3- My husband, engineer MOHAMED A. EL-MAAMOUN.

Thanks are also to the Scientific organizations for offering facilities:

1- Women's College, Ain Shams University.

2- National Research Centre.

3- Agriculture College, Ain Shams University.

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I. INTRODUCTION

In the recent years growing interest has developed in microorganism as potential sources for various enzyme that are of applied nature in food industries and medical fields. Among the microbial enzymes which are of great interest is the β-galactosidase enzymes (lactase, β-D-galactoside galactohydrolase EC. 3.2.1.23) which catalyze the splitting of β-glycosidic linkages of lactose, a natural substrate, to glucose and galactose and the transferring of mono-sugar units to hydroxylic acceptors as sugar or alcohol, resulting in new glycosidic bonds, (*Wierzbick and Kosikowski*, 1973). Such as universal occurrence suggests they play important physiological roles. In humans, deficiencies these enzymatic activities are associated with pathological conditions, such as gastrointestinal and neurological diseases, (*Wallenfels and Weil*, 1972 and *Ben-Yoseph et al.* 1979).

lactose, is the major constituent of milk solids - not fat, limits the concentrations of milk solids-not fat that can be used in ice-cream, milk concentrates, pasteurized processed cheese spreads and numerous other food and feed products.

Lactose utilization is limited in food products because of its low solubility, lack of sweetness and its laxative