كلية العلوم
جامعة عين شمس

Detection and Identification of Rare Actinomycetes in Egyptian Soil using Conventional and Molecular Methods

Thesis
Submitted for the Master degree in Science
(Microbiology)

By

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(B.Sc. Microbiology, 2007)

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2012

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Approval sheet

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Date of examination / / **Approval date / /**

University Council approved / /

كلية العلوم
جامعة عين شمس

تحديد و تعريف الأكتينوميسيتات النادره فى التربه المصرية باستخدام الطرق التقليديه و الجزيئيه

إسم الطالب: دينا حاتم محمد أمين

إسم الدرجه: الماجستير في الميكروبيولوجى (الباكتريولوجى)

القسم التابع له: الميكروبيولوجى

إسم الكليه: كليه العلوم

إسم الجامعه: جامعة عين شمس

سنة التخرج: ٢٠٠٧

سنة المنح: ٢٠١٢

SUMMARY

A screening program for isolation of rare actinomycetes from Egyptian soil was constructed by collecting ten soil samples (each represent the sum of five locations) collected from five different Governorates (Alexandria, Qalubiya, Giza, Asuit and Sinai). A total of 1191 actinomycetes were isolated using various pretreatment procedures and different media to assess the optimal conditions for the isolation of rare actinomycetes from soil. Isolates belonged to genus *Streptomyces* represent (84.5%) of the total actinomycetes. The remaining (15.5%) isolates belonged to rare actinomycetes genera, based on morphological features and microscopic characterization.

The selected physical and chemical pretreatment techniques applied to the soil suspension before cultivation, including dry heat treatment at 120ºC for 1 hour, dry heat treatment at 110ºC for 1 hour and phenol (1%), phenol treatment (1.5%), SDS (0.05%) and yeast extract (5%) treatment and sucrose gradient centrifugation (240 xg ,30 min) of the samples. These pretreatments increase the recovery of rare actinomycetes and decrease the competition of fast growers as streptomycetes, bacterial and fungal colonies. Dry heat at 120C°for 1hour was the most effective method using starch casein agar medium.

This dissertation has not been previously submitted for any degree at this or at any other university

Dina Hatem Mohamed Amin Riad

بِسمِ اللهِ الرحمنِ الرحِيم

قَالُوا سبحانك لَا عِلْم لَنا إِلا ما علمتنا إِنك أَنت العِلِيم الحكِيم

صدق الله العظيم

[البقرة آية:٣٢]

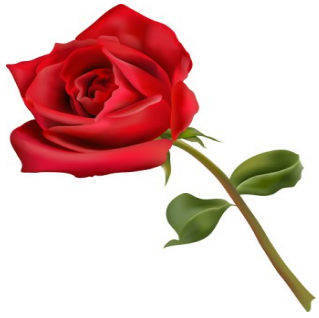
ACKNOWLEDGEMENT

First and foremost, I feel always indebted to Allah, the most beneficent and merciful. You are the one who created us, and control our hearts and minds, we have no one but you, You are The Merciful, The Graceful, The Protector, The Mighty, The Compeller, The Bestower.

I would like to express my deep gratitude and thanks to my dear supervisor Dr.Nagwa Ahmed Abd Allah, Prof. associate of Microbiology, Department of Microbiology, Ain shams university, for her help, encouragement, continuous advice She was always patient, perfect in work, organization,best advisor and expert supervisior to bring this thesis to more than satisfactory finish.

I gratefully and sincerely thank my dear Dr. Sahar tolba,supervisor Lecturer of Microbiology, Department of Microbiology, Ain shams university, for her help, continuous support, valuable instructions and guidance from the start of the work.

Deep thanks to my beloved, lovely mother, father, brother and sister for their love, patience, continous assistance and care. Special thanks to all members of Microbiology department and every one who had helped me.



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رساله مقدمه من

الطالبه: دينا حاتم محمد أمين
بكالوريوس العلوم- جامعة عين شمس- ٢٠٠٧

كجزء من متطلبات الحصول علي درجة الماجستير في العلوم
في الميكروبيولوجى

تحت إشراف

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قسم الميكروبيولوجي
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