

# **دور العناصر الوراثية المتنقلة الرجعية في التنوع الجينومي في كائنات مختلفة**

رسالة مقدمة من

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بكالوريوس علوم زراعية (وراثة)، جامعة عين شمس، 2007

**للحصول على  
درجة الماجستير في العلوم الزراعية  
(وراثة)**

قسم الوراثة  
كلية الزراعة  
جامعة عين شمس

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صفحة الموافقة على الرسالة

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# **ROLE OF RETROTRANSPOSONS IN GENOMIC DIVERSITY IN DIFFERENT ORGANISMS**

By

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## ABSTRACT

**Marwa Mahmoud Shehata Ahmed: Role of Retrotransposons in Genomic Diversity in Different Organisms. Unpublished MSc. Thesis, Department of Genetics, Faculty of Agriculture, Ain Shams University, 2014.**

Five molecular genetic techniques (RAPD, ISSR, IRAP, REMAP and RRAP) were used to study the genetic diversity in yeast and barley. Five yeast strains and six barley cultivars were used. Two retrotransposon-based primers (ScM1 and ScM2) were designed. In yeast strains, RAPD technique showed highly polymorphism. RAPD primers differed in their amplified loci (number of bands) from eight loci to 31 different bands. ISSR primers showed highly polymorphism. ISSR primers amplified similar loci numbers. IRAP primers showed moderately polymorphism. REMAP primers showed moderately to highly polymorphism percentages. The number of bands in the REMAP technique was relatively high. RRAP primers showed moderately to highly polymorphism percentages. RRAP combinations showed similar number of bands. In barley cultivars, RAPD primers showed variable polymorphism percentages. RAPD primers were different in their amplified loci or generated bands. ISSR primers showed moderately polymorphism. The number of bands was similar among the IRAP primers. REMAP technique revealed moderate polymorphism. REMAP combinations showed similar numbers of bands. RRAP technique revealed low to moderately polymorphism. Number of bands among the RRAP technique was almost similar. RAPD technique represented the highest polymorphism percentages per primer among the other four techniques. ISSR primers represented polymorphism percentages more than IRAP primers in yeast but IRAP primers were more polymorphic than those of ISSR in barley. Both REMAP and RRAP combinations showed similar results either in yeast or barley. Retrotransposon-based techniques showed more number of bands more than those of non-retrotransposon-based techniques.

**Key words:** Retrotransposon, LTR, IRAP, REMAP, RRAP, RAPD, ISSRs, Yeast, *Saccharomyces cerevisiae*, Barley, *Hordeum vulgare* and Genomic diversity.

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