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Genetic Polymorphism in Iraqi Females Diagnosed with Breast Cancer Using Random Amplification of Polymorphic DNA Technique

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Abstract: Objectives: This study aims at detection of a possible genetic alternation in the genomic DNA of Iraqi females identified with breast cancer and the opportunity of applying the potential amplified DNA fragment(s) as a molecular probe in future studies and applications. **Methods:** Blood samples were collected from ten female patients with breast cancer and ten healthy females, DNA was extracted from each sample then Random Amplification of Polymorphic DNA Technique has been conducted with five different arbitrary primers (OPA-20, OPB-01, OPD-01, OPAB-14 and OPZ-05). **Findings:** RAPD analysis with primer OPZ-05 could detect two polymorphic DNA bands in the genome of healthy females, but these bands were absolutely absent in the genomic DNA of patients. **Novelty /Improvement:** these two novels amplified DNA bands could be of the promising application as a molecular probe for detecting the absence of breast cancer mutation (alternation) sites in the suspected females in future.

Keywords: Breast cancer, Diversity, Genetic marker, RAPD, PCR, Qadisiyha.

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