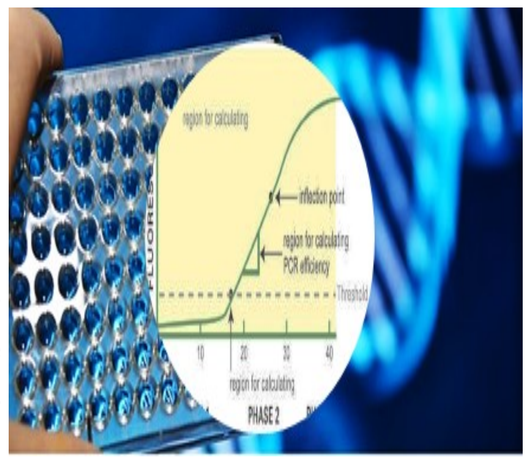
جامعة الإسكندرية
ALEXANDRIA UNIVERSITY
معهد الدراسات العليا والبحوث

قسم التكنولوجيا الحيوية

الهيئة القومية لضمان جودة التعليم والإعتماد
معهد الدراسات العليا والبحوث - جامعة الإسكندرية - مصر
معتمد ٢٠١٦

Training Course on: PCR and RTPCR

18 - 21 September 2022



PCR and RTPCR are considered as the most powerful techniques to amplify DNA and to quantify the level of gene expression. Real-Time Polymerase Chain Reaction (RT-PCR), also known as quantitative Polymerase Chain Reaction (qPCR), is a powerful, accurate and sensitive technique to measure nucleic acid (DNA or RNA) quantitatively. Due to its specificity, fidelity, and efficiency, qPCR has been using in a wide range of applications, including diagnostic uses, quantification of gene expressions, detection of genetically modified organisms, clinical quantification, and genotyping, etc. Despite the relative ease of use of the qPCR system, the high-quality qPCR results are hard to obtain since the results can be affected by many experimental variables. Hence, the goal of this workshop is to help you to improve your qPCR skills, as well as get good quality and publishable qPCR results.

A four-day workshop is being organized at the Institute of Graduate Studies and Research, department of Biotechnology, from September 18th to 21st, 2022. The workshop aims to provide hand-on training on PCR and RT-PCR. In morning session, daily two lectures will be delivered by eminent scientist and professors. The evening sessions will include practical activities and demonstration of PCR and RT-PCR reaction set-up and optimization.

Target Participants.

This workshop is intended for research scientists, graduate and postgraduate students who require knowledge in molecular biology techniques, laboratories supervisors and technicians.

What will you learn in this workshop? Hands-on training in the lab for DNA-extraction and PCR setup, Fundamental of PCR and RTPCR, theory on qPCR primer and probe design, hands on experience in preparing qPCR mix and set up qPCR machine and data analysis on (a) Relative quantification (b) Absolute quantification.

Day	Subject
Day 1	Lecture 9.30 -11: Principles of PCR, reaction components, optimization, primers design and trouble shooting. Practical session: ▪ Isolation and purification ofc DNA and RNA from different sources such as whole blood and animal cells. ▪ Quantification of DNA and RNA using nanodrop. Analysis of DNA and RNA using native and denatured gel electrophoresis. ▪ Amplification of specific gene using simple and gradient PCR.
Day 2	Lecture : 9.30-11: RNA isolation and cDNA synthesis. Practical session: ▪ Synthesis of cDNA. ▪ Hands on experience in preparing qPCR mix and set up qPCR machine.
Day 3	Lecture 1: 9.30-11: Mutation detection methods. Lecture 2: 11-1.0: Fundamental of qPCR and its applications. Theory on qPCR primer and probe design. Practical session: ▪ Running a qPCR experiment and data analysis.
Day ٤	Lecture : 9.30-11: Data analysis on (a) Relative quantification (b) Absolute quantification. Catch up incomplete work. Question and answer session and certificate distribution.

Course Book	Course Organizer	Course Fee
Training Course on: PCR and RTPCR book will contain recent materials for most of the topics covered in the course theoretically and practically. In addition, a CD contains most of the protocols and methodologies covered will be available.	Prof. Dr. Hesham Saeed Professor of Biochemistry and Molecular Biology Department of Biotechnology Institute of Graduate Studies and Research - Alexandria University Dr.Nefertiti El-Nikhely Lecturer of Biochemistry Department of Biotechnology Institute of Graduate Studies and Research - Alexandria University	1500 Egyptian pounds

للحجز والاستعلام

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