



كلية الصيدلة
College of Pharmacy
QATAR UNIVERSITY جامعة قطر
Member of HEALTH الصحة عضوفي



THESIS PRESENTATION: Master of Science in Pharmacy

Ms. Arij Fouzat Hassan

Thesis Title: The Effect of Natural and Synthetic Compounds on Human Colorectal Cancer: *In vitro* and *In vivo* Studies

Supervisor:

Dr. Ashraf Khalil, Professor and Head of Pharmaceutical Sciences, College of Pharmacy, Qatar University

Co- Supervisors:

Dr. Ala-Eddin Al Mustafa, Professor of Molecular and Cell Biology, College of Medicine, Qatar University

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Exam Committee:

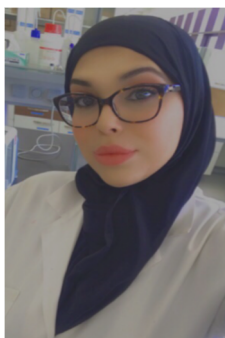
Dr. Hesham Korashy, Professor of Pharmacology, College of Pharmacy, Qatar University

Dr. Mohey Elmazar, Professor and Dean of College of Pharmacy, British University in Egypt

Wednesday, 11 May, 2022

12:00 pm - 2:00 pm

Ibn Al Bitar Building (I06), Room G.CI.03



Summary: Colorectal cancer (CRC) is considered among the most lethal malignancies globally after lung and breast cancer, with a notable increase in its incidence and mortality rates. Current chemotherapies are faced with several adverse side effects, mainly lack of selectivity. Thus, novel natural compounds are now presented as potential alternatives, not only for CRC treatment, but also for its prevention. Likewise, synthetically designed flavonoids are also suggested as plausible alternatives with potency against CRC. *EA*, for instance, is a medicinal plant well known for flavonoids abundance in its flowers and its therapeutic potential. Likewise, chalcones, a class of flavonoids, seems to possess promising anti-cancerous effect. We herein explored the outcome of the aqueous *EA* extract and newly designed and synthesized chalcone analogs (DK13 and DK14) and their underlying mechanisms of action *in vitro* and *in vivo* using the CRC cell lines and the *Drosophila melanogaster* model for CRC, respectively. Collectively, our study findings demonstrate an apparent anticancer effect of *EA* extract and chalcone compounds on CRC, presenting *EA*, Dk13, and Dk14 as promising candidates for future development as chemotherapeutic agents.

