

PhD research pre-proposal

Code: BioMed-2021PhD1	
Title: Identification and characterization of novel molecular chaperone inhibitors from Moroccan medicinal plants to treat cancer.	
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Host college: College of Health Sciences	Host research unit: BioMed

SUMMARY OF THE RESEARCH PRE-PROPOSAL

The development of new cancer therapeutics remains a major challenge. Natural products are a huge source of biologically active compounds widely used in drug development. Indeed, natural product inhibitors of the heat shock protein Hsp90 have served as leads for the development of more efficacious inhibitors and analogs that have entered clinical trials.

Moroccan flora is rich in medicinal plants that are widely used in traditional medicine for the treatment of various diseases including cancer. These plants have several bioactive molecules, which belong to secondary metabolites. Several reports indicated that extracts from these plants have remarkable cytotoxic effects on various tumor-derived cell lines.

However molecular mechanisms underlying the antitumor activities of these plant extracts are not well-understood. Their bioactive molecules with potential anti-tumor effects remain uncharacterized.

The aim of this PhD Thesis is to explore the most active plant extracts for their ability to kill cancer cell of different origins and isolate the most potent compounds for further characterization in vitro and in vivo.

REQUIRED ACADEMIC QUALIFICATIONS & SKILLS

Applicants should have a Master or Engineering degree with solid background in fundamentals of cell biology, cancer biology, biochemistry, molecular biology, immunology, bioinformatics,

Academic qualifications and skills are required for the success of this project, such as, fluency in academic English and the ability to read critical scientific articles.