

For Immediate Release



## **AUB and Hikma to collaborate on developing anticancer drugs from medicinal plants**

Beirut, Lebanon- 04/03/2014 - The American University of Beirut-Nature Conservation Center (AUB-NCC) has established a scientific collaboration with Hikma Pharmaceuticals to pioneer anticancer drugs from medicinal plants.

Led by Biochemistry Professor Nadine Darwiche from the Faculty of Medicine, the interdisciplinary team that will study medicinal plants draws on the expertise of AUB-NCC members by incorporating advances in chemistry, nanotechnology, and anticancer studies. In addition to financial support, Hikma will help catapult these new drug candidates from the AUB laboratories to the market, thus making them accessible to the general public.

“We are very excited that the results of our research will be applied to develop drugs that will potentially reach the market,” said Darwiche. “It is crucial that basic academic research be turned into applied science so that many people’s lives could be improved.”

The medicinal plants being studied by the AUB team were chosen after scouring folk medicine archives and identifying the most well-known 29 medicinal plants in Lebanon. This list was narrowed down to two really promising plant species with anticancer properties, *Akhilia zat al-alf waraqah*” and “*Shawk al-dardar*,” commonly known as yarrow and loggerheads or knapweed, respectively.

“We have studied these two plants and found them to be really effective against colon cancer and skin cancer,” said Darwiche. “They also show promising effects on leukemia and breast cancer.”

The AUB team has already published several papers on the plants’ medicinal effect on colon and skin cancer between 2008 and 2013 in prestigious journals such as *BMC Complementary and Alternative Medicine*, *European Journal of Medicinal Chemistry*, *International Journal of Oncology*, and *Journal of Natural Medicine*.

“The first phase of the research was to identify plants with anticancer properties and isolate and identify the plant molecules responsible for these properties. The next step is to turn them into drugs and produce them commercially,” explained Darwiche. “It takes 10 years and probably one billion dollars to move a drug from the lab to the clinic. That’s why we have partnered with Hikma, since we, as researchers, cannot do that alone.”

In order to ensure that these life-saving drugs have maximum effectiveness, researchers need to understand the chemistry behind them, noted Associate Professor Tarek Ghaddar from the Department of Chemistry and one of the co-investigators on this project.

Assistant Professor Walid Saad, also a co-investigator on this project from the Chemical Engineering Program, added that the current interplay between academic institutions and the pharmaceutical industry has been proving productive, promising, and progressive. While such collaborations are commonplace in the United States and Europe, the collaboration between AUB and Hikma takes on cutting-edge status with regards to the MENA region.

Over the past decade, since it was established in 2002, AUB-NCC has discovered several natural compounds with anti-cancer properties, contributing to the ever-expanding realm of cancer studies.

“This project is an example of how AUB-NCC aims to ensure sustainable agro-industrial growth and to introduce state-of-the-art technology to help give developing countries a comparative advantage to reap economic benefits from their medicinal plant discoveries,” said Professor Najat Saliba, AUB-NCC director and a collaborator in this project. “This collaboration with Hikma wishes to plant the seeds of its discoveries within the archives of scientific research for faculty and students to ultimately benefit from.”

Saliba added: “Hikma’s experience, growth strategy, and generous financial and technical support, combined with the chemistry, cancer biology and chemical engineering expertise of AUB-NCC investigators provide synergy and momentum for the project’s success.”

Hikma Pharmaceuticals was founded in 1977, in Amman, Jordan, by Samih Darwazah, a Fulbright Scholar and a Distinguished AUB Alumnus Award recipient with a BS in Pharmacy and an MSc in Industrial Pharmacy. Since then Hikma has steadily evolved as a leading multinational pharmaceutical company. In the early 1990s, Hikma expanded beyond the MENA region, establishing operations in the United States and Portugal.

AUB-NCC is an interdisciplinary center at AUB created in 2002 to promote nature conservation.

Back then, a group of AUB faculty members collaborated to combine their knowledge to explore and develop biodiversity-related economic opportunities through research, education, and community outreach. The center has grown since then and now manages 15 projects related to biodiversity, sustainability, and nature conservation.

Considering the importance of evidence-based research in natural products, AUB-NCC, in collaboration with the Wellness Program at AUB, is organizing a workshop on Integrative and Complementary and Alternative Medicine (CAM), on March 7, 2014. The workshop aims at promoting evidence-based non-conventional medicine as a complementary healthcare model, while contemplating the establishment of a Graduate Degree in CAM at AUB. Efforts towards an MS in Complementary and Alternative Medicine have already started with a committee comprising professors from the different faculties at AUB.

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**Note to Editors**

**About AUB**

Founded in 1866, the American University of Beirut bases its educational philosophy,

standards, and practices on the American liberal arts model of higher education. A teaching-centered research university, AUB has more than 700 full-time faculty members and a student body of about 8,500 students. AUB currently offers more than 100 programs leading to the bachelor's, master's, MD, and PhD degrees. It provides medical education and training to students from throughout the region at its Medical Center that includes a full service 420-bed hospital.

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