

## **Cancer Program: Drug Development for One of the Deadliest of Cancers (Carmel)**

Researchers: Prof. Fuad Fares; Dr. Lital Sharvit

### **Discovering a novel treatment for pancreatic cancer with a mushroom-derived compound.**

#### **Background**

Pancreatic cancer is one of the deadliest of all solid malignancies. There are generally no symptoms during the early stages of this cancer, so by the time it is diagnosed it has reached advanced stages. It has one of the worst prognosis of all cancers, with a 6% 5-year survival rate. The majority of pancreatic cancer patients die within the first year of diagnosis.

The current chemotherapy treatment, either alone or in combination with radiation, has been proven to improve progression-free survival (that is, the time that a patient lives with the disease but it does not get worse) by less than a year.

Pancreatic cancer prevalence worldwide is 4.1 per 100,000, according to the World Cancer Research Fund International. The disease is the twelfth most common cancer and the seventh most common cause of death from cancer.

#### **Hope for a Cure from a Mushroom-Derived Compound**

Historically, drugs have primarily been derived from plant, animal and mineral sources. Within that realm, mushrooms comprise a vast and yet largely unexploited source for powerful new compounds. Many forms of mushrooms have been found to contain a variety of secondary metabolites with antitumor properties.

University of Haifa Faculty of Natural Sciences researchers Prof. Fuad Fares and Dr. Lital Sharvit are in the advanced stages of research leading toward the development of a novel treatment for pancreatic cancer, based on the properties of a mushroom-derived compound that they discovered in a species endemic to Israel.

#### **Research Status**

Prof. Fares and Dr. Sharvit have successfully advanced their research to inhibit the growth of human pancreatic cancer cells in vitro and in vivo. Using the mushroom-derived compound, a significant tumor growth decrease due to induction of apoptosis (cell death) is achieved. In vivo results have confirmed the in vitro findings, destroying more than 90 percent of the treated cancer cells in both environments. Furthermore, animal testing has shown significant tumor growth inhibition with no adverse effects in body weight or in liver and kidney functions. This indicates the compound's safe and effective value in impeding pancreatic cancer tumor progression. Synthesis of this active compound controlling the apoptosis process can be used to develop novel and effective strategy for pancreatic cancer treatment.

#### **Mushroom derived compound leading to development of a novel treatment for pancreatic cancer.**

Carmel established [CanCurX Ltd.](#) to advance and commercialize this technology, with a seed investment from the [Carmel Innovations Fund](#).

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