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Screening British Columbia (BC) wild mushrooms for anti-cancer properties

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Mushrooms have been used since ancient times to treat various diseases including cancer, and the interest to use mushrooms for therapeutic purposes have risen in recent years due to their reported high biological activity and low-toxicity. Despite a long history of mushrooms being used as traditional medicine in Asia, this medicinal field is relatively new in the West. In Canada, there is very limited number of studies performed on the medicinal properties of wild mushrooms. In this study, wild mushrooms collected from across north-central British Columbia (BC) were studied for their immuno-stimulatory activity and their ability to interfere with a specific protein-RNA interaction, namely the IMP1-KRAS mRNA interaction. Such molecular interaction has been shown to be critical for the oncogenic role of IMP1. Mushrooms collected were subjected to sequential extraction with 80% ethanol, 50% methanol, water, followed by 5% sodium hydroxide. All four crude extracts of three mushroom species were screened for their ability to stimulate murine macrophage (RAW 264.7) cells, with only the water extract of *Pleurotus ostreatus* showing significant immuno-stimulatory activity. In addition to that, crude extracts of six mushrooms were screened for their ability to disrupt the IMP1-KRAS mRNA interaction using an established Fluorescence Polarization (FP) method. Results of the screening of BC wild mushrooms for the two bioactivities will be presented and discussed.

Biography

Bryan Chu Chwen Lim completed his Bachelor's Degree in Biochemistry at the Universiti Putra Malaysia (UPM). To further enhance his interest in science, he managed to receive a scholarship for his studies as a graduate student at the University of Northern British Columbia (UNBC) in Canada, working on medicinal mushrooms with anti-cancer properties. With less than a year in his studies, he received Co-Authorship in one of the recently published research articles which studied the growth-inhibitory activity of a BC wild mushroom on cancer cell lines.

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