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ABSTRACT

In Vitro Assessment of Antioxidant, Anticancer and Antimicrobial Activity of Wheat Sprouts Extracts

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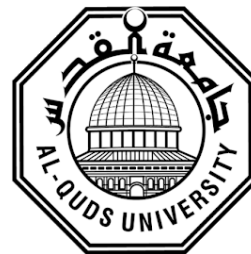
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Cancer is a major public health problem. Researches show that tens of millions of people around the world suffer from cancer, and almost all ultimately die from it. Cancer is often thought of as an untreatable and painful disease. Although the development of cancer increases with age, people may develop cancer due to lifestyle, genetic mutations, or cell damage. Nevertheless, environmental effects may act as factors that lead to the development of cancer. Treatment of cancer is still being studied. The only choice for treating cancer patients nowadays is anticancer drugs and chemotherapy. The side effects may damage the whole body since anticancer drugs affect not only cancer cells, but also normal healthy cells. As a result, this leads to immunosuppression of the body. The inhibition of the immune system allows bacteria to infect the body, so the patients require antibiotics which are the first defense line against bacterial infections. Cancer patient will suffer more with the side effects of antibiotics along with anticancer drugs and chemotherapy. Accordingly, researches are trying to find alternative treatments that are less toxic than chemicals, like natural plants. Researches began using plant extracts which have always been rich sources for many compounds that are useful for producing drugs. In this study, specific plant sprouts will be used, which are wheat sprouts. This is because they have many nutrients that improve metabolism, keep normal blood sugar levels, and eliminate toxins by neutralizing them. After planting the wheat seeds, the sprouts will be dried in shade, and the anticancer and antimicrobial extracts will be obtained. Specific techniques will be used in order to examine the biological activity of these antioxidants, including the anticancer and the antimicrobial agents. Agar diffusion method will be used for evaluating the width of the inhibition zone. Later, the minimal inhibitory concentration of the antimicrobial extracts will be determined. In addition, the anticancer extracts will be experimentally used on different cancer



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cell lines, and by counting the floating cells, the number of dead cells will be compared with that of live cells. Afterwards, according to the results, wheat sprouts will be evaluated and tested if they can be used as antimicrobial and anticancer agents or not, by using different concentrations.

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