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Cytotoxic effect of benzimidazole metal complex compounds on lung cancer cells (A549)

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Lung cancer is one of the most common causes of cancer-related deaths. Current therapeutic interventions have little impact on the epidemic proportions of the disease and the case fatality rate remains at 85–90%. Benzimidazole derivatives are important constituents in most pharmacologically, catalytically and biologically active compounds. One general strategy for the research on new anticancer agents is the therapeutic use of metal containing compounds.

Here-in, we aim to determine the cytotoxic and cytostatic effects of newly synthesized fourteen benzimidazole metal complex compounds against lung cancer (A549) and normal bronchial epithelium cell line (BEAS-2B) using Trypan blue and MTT assay methods. Benzimidazole metal complex compounds (1, 4 and 5) have lower IC_{50} levels (1, 97 µg/mL, 1, 87 µg/mL and 1, 9 µg/mL, respectively) than cisplatin (2, 56 µg/mL) against A549. On the other hand, the IC_{50} values of these compounds against BEAS-2B cell line were 59, 8 µg/mL, 24, 5 µg/mL and 32, 67 µg/mL respectively. IC_{50} value of cisplatin on BEAS-2B was 2, 53 µg/mL.

Biography

Elif Apohan has completed her PhD from Inonu University and Post-doctoral studies from Medical University of South Carolina, USA and Izmir Institute of Technology, Science Faculty, Department of Molecular Biology, Izmir, Turkey. She is the Director of Biotechnology Department in Art and Science Faculty. She has published more than 10 papers in SCI.

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