

CYTOTOXIC AND ANTI-PROLIFERATIVE ACTIVITIES OF ISATIN-SCHIFF BASE COPPER(II) COMPLEXES AGAINST B16F10 MOUSE MELANOMA CELLS

Simeoni, R.B.¹, Abbott, M.P.², Luvizon, A.C.³, Zanata, S.M.³, Ferreira, A.M.D.C.², Nakao, L.S.¹

¹PUCPR, Curitiba, PR, Brasil; ²IQ-USP, São Paulo, Brasil; ³UFPR, Curitiba, PR, Brasil

Anti-tumoral activities of metal complexes have been extensively investigated. Some copper(II) complexes with imine ligands derived from isatin have been described to induce apoptosis in promonocytic and neuroblastoma cells, probably due to the redox properties of Cu(II), which can be modulated by the ligands. We analyzed the cytotoxic effects of [Cu(isaepy)]⁺, [Cu(isaepy)₂]²⁺ and [Zn(isaepy)Cl₂], at 50 μM, in B16F10 mouse melanoma cells with Trypan blue staining. After 24h, viability was similar (~90%) for cells treated with all complexes; however 48h after the treatment, only 52% of the cells treated with [Cu(isaepy)₂]²⁺ were viable, while viability was ~85% with the two other compounds. In agreement, the mortality rate, determined by the number of dead cells related to total cell number, was increased in cells treated with [Cu(isaepy)₂]²⁺, mainly after 48h (35%) compared to other treatments (<1%). In addition, total cell countings (viable and dead cells) showed that the number of [Cu(isaepy)₂]-treated cells was 2- and 6-fold decreased compared to the number of cells incubated with the other complexes, after 24 and 48h, respectively, indicating the [Cu(isaepy)₂]²⁺, also presents a significant anti-proliferative effect in these cells. These results indicate that [Cu(isaepy)₂]²⁺, presents promising anti-melanoma activity and deserves further studies.

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