

Abstract

Characterization of the Cytotoxic Effect of N-(2-Morpholinoethyl)-2-(naphthalen-2-yloxy)acetamide in Cells Derived from Cervical Cancer [†]

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Abstract: Cancer is a disease caused by the alteration of proto-oncogenes and tumor suppressor genes, has a high prevalence in the population, and is one of the main causes of death worldwide. For its treatment, there are different therapy options; however, these are not always effective for all existing types of cancer, which gives rise to the search for new compounds. The objective of this work is to determine the degree of cytotoxic activity of naphthoxyacetamide using dose–response curves in a cell viability assay. For this, the cytotoxic effects of N-(2-morpholinoethyl)-2-(naphthalen-2-yloxy) were identified in cancer cells (HeLa) based on the metabolic reduction of 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenylretrazol (MTT) bromide. The cell cultures were seeded at a density of 5000 cells/well in 96-well plates and treated by hexapplication with various concentrations of the compounds to be tested (0.31–3.16 $\mu\text{M}/\text{mL}$) for 24 h. Microplates were read in an ELISA reader at 575 nm. The dose–response curve of N-(2-morpholinoethyl)-2-(naphthalen-2-yloxy)acetamide (3.16, 1.77, 1, 0.31 $\mu\text{M}/\text{mL}$) showed that at a concentration of 3.16 $\mu\text{M}/\text{mL}$, it presents cytotoxic effects similar to those shown by the drug reference (cisplatin 3.32 $\mu\text{M}/\text{mL}$). In conclusion, N-(2-morpholinoethyl)-2-(naphthalen-2-yloxy)acetamide showed cytotoxic effects similar to cisplatin.

Keywords: naphthoxyacetamide; cytotoxicity; HeLa

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