

SHORT COMMUNICATION

DNA-BINDING PROPERTIES AND CYTOTOXICITY OF EXTENDED AROMATIC BISAMIDINES IN BREAST CANCER MCF-7 CELLS

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The DNA binding properties of three novel extended aromatic bisamidines (**1–3**) possessing different dicationic terminal side chains were studied. Data from the ethidium displacement assay showed that bisamidines **1–3** have significant affinity for DNA. We studied the cytotoxic activity of bisamidines **1–3** and Hoechst 33258 in the cultured breast cancer MCF-7 cells. These data show that in broad terms the cytotoxic potency of bisamidines **1–3** in the cultured breast cancer MCF-7 cells decreases with the size of the alkyl group substituent (cyclopropyl > isopropyl > cyclopentyl), in accord with their increases in DNA affinity, as shown by the binding constant values. The bisamidines **1–3** showed comparable antitumor activity to Hoechst 33258.

Key words: bisamidines, DNA binding, breast cancer MCF-7 cells, cytotoxicity

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