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Dioxoisoindolines as potential anticancer agents

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Cancer is a disease that has a multifactorial origin, actually, the scientist in the entire world are working for one effective treatment or a cure, but the idea seems so far because in one-day thousands of new cases are detected and in the moment we only have a small idea of confronting it. The new discoveries to stop cancer have a central element, this is the genetic regulation, and one that has great interest is blocking the function of histone deacetylase which has as their central role withdrawing an acetyl group, which helps temporarily silencing gene expression, as it returns to a state of super curl DNA. Our work comprises selective inhibitors of HDAC8, family member number one of the HDACs, which depends on a zinc molecule to perform its function; this specific protein has been implicated in the development of metastasis in cancer breast, besides participating in the differentiation and proliferation of cells by yet unknown mechanisms. We had been designed two molecules that have structural relation, the results obtained in our tests are positive for inhibition of HDAC8 with a ΔG=-5.290 Kcal/mol, we obtained favorable results in terms of reducing the load of transformed cells at a concentration of $1x10^{-4}$ M, in 24 and 48 hours, for one of our two molecules, data were shown by spectroscopy at 540 nm. Our second molecule proved to be nothing effective and opens the gap to a discussion on how to change the structure a little can affect the biological response.

Biography

Bribiesca-Carlos José is a Medical student at Escuela Superior de Medicina at Instituto Politécnico Nacional. He is working at the Biochemistry Research Laboratory in order to improve his knowledge about the chemistry of life and the synthesis of drugs.

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