

Antiproliferative Effects of a Series of Cyclic Imides on Primary Endothelial Cells and a Leukemia Cell Line

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The present study describes the cytotoxic properties of a series of 15 cyclic imides observed against different endothelial cells and K562 leukemic cells. Initially, eight structurally unrelated compounds were evaluated against cultured bone marrow endothelial cells (BMEC) and human umbilical vein endothelial cells (HUVEC). Only two imides showed cytotoxic activity at 10 μM . In continuation of our screening, eight compounds, structurally related to the compound with the higher cytotoxic activity, were assayed against endothelial cells and the K562 leukemic cell line. All of these new compounds except two exhibited cytotoxic and antiproliferative activities at concentrations below 10 μM against BMEC and HUVEC, respectively. The K562 leukemia cell line was only affected by concentrations of 100 μM . Preliminary SAR analysis indicated that the cytotoxic activity of these compounds was related to the presence of a planar imide ring directly bound to an aromatic ring.

Key words: Cyclic Imides, Leukemia, Angiogenesis, Bone Marrow Stromal Cells