Таким образом, CL-43 является своего рода уникальным веществом, так как способен не только ингибировать главный активатор защитных механизмов в опухолевых клетках, но и повышать его уровень в здоровых клетках, что важно в контексте борьбы с побочными эффектами терапии. Несмотря на это, механизмы его работы все еще неизвестны и остаются предметом наших дальнейших исследований.

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СОБЛЮДЕНИЕ ЭТИЧЕСКИХ СТАНДАРТОВ

В работе отсутствуют исследования человека или животных.

КОНФЛИКТ ИНТЕРЕСОВ

Авторы работы заявляют, что у них нет конфликта интересов.

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EFFECT OF THE HSF1 INHIBITOR CL-43 ON TUMORS AND NON-TRANSFORMED CELLS

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The occurrence of severe side effects in patients undergoing chemotherapy remains a significant clinical challenge. Therefore, the urgent task is to search for tumor-specific therapies that target opposing responses in non-transformed and tumorigenic cells. HSF1 is known to be an important marker of cancer progression and its transcriptional activity products allow tumor cells to escape the adverse effects of anticancer therapies. Thus, drugs inhibiting HSF1 activity hold promise as a therapeutic strategy. Our study shows that using the cardenolide group's HSF1 activity inhibitor, CL-43, provides cytoprotective effects on primary, untransformed dermal fibroblast (DF-2) cells, making them less sensitive to etoposide, whereas we observed an increase in sensitivity in the DLD1 tumor cell line. Furthermore, our results show that CL-43 interferes with the intranuclear transport of the active form of HSF1, increasing its activity and consequently the synthesis of HSP70 in human fibroblasts, while suppressing this activity in tumor cells in a dose-dependent manner. Our findings demonstrate the unique potential of CL-43 as a tumor-specific compound with high therapeutic value.

Keywords: HSF1, combination therapy, CL-43, dermal fibroblast