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Affinity of the anti-cancer preparation NSC631570 (Ukraine) to the cancer cells

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It is well known all living cells have a membrane potential of about -60 to -100mV. The negative sign of the membrane potential indicates that the inside surface of the cell membrane is relatively more negative than the immediate exterior surface of the cell membrane. Researchers at the University of Natural Resources and Life Sciences, Vienna (Austria) revealed human osteosarcoma cells to have a high capacity to absorb NSC631570 while absorption in normal endothelial cells was considerable lower under the same experimental conditions. This selective uptake of NSC631570 in the cancer cells has been confirmed due to its unique property to auto fluorescence under UV light. A study examined how NSC631570 affects the electro kinetic potential (EKP) of malignant and benign cells. The EKP of the Ehrlich's carcinoma cells dropped after incubation with NSC631570. The EKP decrease of normal cells was less pronounced. The cytotoxic effect of NSC631570 was examined on two primary pancreatic cancer cell lines (PPTCC), fibroblasts from ductal pancreatic cancer tissue samples (F-PDAC) and an immortalized ductal epithelial pancreas cell line (HPNE). Cytotoxicity was established by means of Cell Titer 96 kit. In the tests with primary pancreatic cancer cell lines the modulation of NSC631570 absorption in the medium was determined with the help of the fluorescence of NSC631570 under UV light. The fluorescence test showed that carcinoma cells absorbed more of the preparation than fibroblasts and normal epithelial cells. The selective accumulation of NSC631570 in the cancer cells explains its favorable safety profile and high therapeutic index of 1250.

Biography

Wassil Nowicky — Dipl. Ing., Dr. techn., DDDr. h. c., Director of "Nowicky Pharma" and President of the Ukrainian Anti-Cancer Institute (Vienna, Austria). Has finished his study at the Radio-technical Faculty of the Technical University of Lviv (Ukraine) with the end of 1955 with graduation to "Diplomingenieur" in 1960 which title was nostrificated in Austria in 1975. Dr. Wassil Nowicky became the very first scientist in the development of the anticancer protonic therapy and is the inventor of the preparation against cancer with a selective effect on basis of celandine alkaloids "NSC-631570". He used the factor that cancer cells are more negative charged than normal cells and invented the Celandine alkaloid with a positive charge thanks to which it accumulates in cancer cells very fast. Author of over 300 scientific articles dedicated to cancer research. He is a real member of the New York Academy of Sciences, member of the European Union for applied immunology and of the American Association for scientific progress, honorary doctor of the Janka Kupala University in Hrodno, doctor "honoris causa" of the Open international university on complex medicine in Colombo, honorary member of the Austrian Society of a name od Albert Schweizer. He has received the award for merits of National guild of pharmacists of America. the award of Austrian Society of sanitary, hygiene and public health services and others.

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