

"Polycations in cancer diagnostics and therapy- A novel approach".

The use of polyelectrolytes in the past was mainly related to targeted drug delivery and nanoparticle preparations for medical applications. But rarely the polyelectrolytes were investigated for their own features as a drug.

In our present work we use a special physical feature of cancer cell membranes as a target for a specific polycation. We found that the polycation is selectively up-taken by cancer cells (leukemia, hepatocarcinoma, cancer stem cells) while normal cells remain unaffected. The speed and the selectiveness of the polycation entrance more or less exclusively in cancer cells makes the technique interesting for a quick and cheap test for the patient follow-up after treatment. Moreover the polycation, once entered, destroys the cancer cells in less than one minute. Due to the well-known systemic toxicity it can be a potentially interesting therapy for primary tumors, solving the tumor and "hunting" in the environemetnal tissue for invading tumor cells.

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