Biomedical polymers for treating primary and metastatic tumors

Ayelet David

Department of Clinical Biochemistry and Pharmacology, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel.

In cancer therapy, several attempts have been made to target chemotherapeutic drugs and nanomedicines directly to different cell types of the tumor microenvironment. In this lecture I will describe the design of new polymer-drug conjugates that can actively target endothelial cells, tumor associated macrophages, and cancer cells of diverse tumor origin. The endothelial cell targeted polymer-drug conjugates significantly inhibit primary tumor growth, prevented the development of pulmonary metastases, and could further control the establishment of metastasis. Our research highlights the endothelial cells targeted systems as effective nanomedicines to treat primary and metastatic tumors.