

Gene regulating cancer growth identified

In Canada, researchers at Mount Sinai Hospital's Samuel Lunenfeld Research Institute and the University of Toronto have identified a key gene that slows cancer growth. This discovery opens the door to new approaches for effective cancer treatments. Cancer cells express sugar or carbohydrate structures that enable it to grow rapidly. Researchers have studied how these sugars on the cell surface affect the growth and spread of cancer. They found that the synthesis of sugar chains, called Mgat5, are elevated in human malignancies of breast, colon and skin cancers. By knocking out Mgat5 gene in mice, they found that cancerous tumour growth and the spread of tumour cells to the lungs were suppressed.

According to researchers, the Mgat5 gene in cancers promote cell movement, which drives growth-signalling pathways inside the cells. This is the first time that researchers have been able to show a direct involvement of carbohydrate chains in cancer growth. This study and ongoing investigations in the signalling pathways affected by Mgat5 could lead to new approaches to control the spread of tumours. Researchers also found that mice without Mgat5 had a stronger immune response, which may contribute to its role in suppressing tumour growth. While further research is required, this finding raises the intriguing possibility that inhibitors of Mgat5 may augment the immune response in cancer patients following chemotherapy. *Contact: Mr. Steven De Sousa, Canada. Tel: +1 (416) 9785 949; E-mail: steven.desousa@utoronto.ca; Internet: <http://www.utoronto.ca/>.*