Targeted Therapeutic Against Bladder Cancer

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Technology description

Background

Bladder cancer is the fourth most common cancer among men and eleventh among women. Bladder cancer has a high rate of recurrence post-surgery. Despite its obvious high impact on public health, the available therapies are still of limited efficacy. Instillation of therapeutics in the lumen of the bladder assures access to the tumor without affecting normal cells, but dilution of the therapeutic agent by urine flow and its elimination by periodic emptying of the bladder, greatly reduces the treatment efficacy. The market for new technologies related to novel therapeutics to support the treatment of such cancers includes pharmaceutical companies and cancer research centers.

Technology Summary

Purdue University researchers have developed a novel strategy using an epidermal growth factor (EGF) targeted toxin, which can be used for elimination of both superficial and invasive bladder tumors. This is a highly efficient, targeted strategy that reduces treatment time from hours (current therapies) to minutes. Further, this agent can be administered by a pharmaceutically acceptable delivery system in the lumen of the bladder for treatment. In addition to being easily used against bladder cancer, this strategy is also applicable to other EGF receptor-dependent cancers such as lung and skin cancer.

Application area

Treatment of bladder cancer
Treatment of lung and skin cancer

Advantages

High efficacy and fast action
Targets superficial and invasive bladder tumors
EGF targeting and internalization of the toxin

Institution

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