

Rodents and human-related cancer

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by [Anna Sanders](#)

In the U.S., there are more than 50,000 new cases of bladder cancer every year, killing approximately 14,000 people annually. Under a one-year grant, one NYU professor is working to determine the cause of the cancer.

Joseph Guttenplan, a science professor at the College of Dentistry, was recently awarded a grant from the NYU Langone Medical Center to study how bladder tumors progress into invasive cancer in animals and use that information to find the cause of bladder cancer in humans.

In his study, Guttenplan will focus on one particular chemical compound that has been linked to bladder cancer: BBN, or N-butyl-N-(4-hydroxybutyl) nitrosamine, a substance used in cancer research to cause bladder tumors in laboratory animals.

"This was actually work that resulted from previous research that showed this environmental compound causes bladder tumor in rodents," Guttenplan said. "It gives us an animal model to work on."

In his study, Guttenplan will observe how the effects of BBN on rodent DNA result in mutations that lead to cancer, thus allowing scientists to determine the cause of bladder cancer in rodents.

"Some of the reasons might be similar to why certain humans develop bladder cancer," Guttenplan said.

He added that most drugs are first tested on animals and that using an animal model to detect the causes of bladder cancer will help scientists develop drugs to combat the cancer in humans.