# Combination Treatment for Cancer Involving CX-3543 and a PARP Inhibitor

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## Technology description

Invention

Researchers at the University of Arizona have discovered that the addition of benzamide to HeLA cells prior to treatment with CX-3543 results in an increase in nucleolin bound to the NHE III1 element of the c-Myc promoter. Further analysis of the data indicated that there is a significant increase in the induction of apoptosis over that of CX-3543 alone. This suggests that the combined use of Cylene Pharmaceutical's CX-3543 and a PARP inhibitor should show produce greater efficacy than the use of CX-3543 alone. Also, it is anticipated that the spectrum of tumors to which this method of treatment is amenable will increase enabling administration to a wider range of tumor types than previous procedures.

Background

Poly (ADP-Ribose) polymerase (PARP) is a nuclear enzyme that functions in repairing DNA, mediating cell death, and regulating the immune response. PARP is activated as a result of cellular damage resulting from chemotherapy, radiotherapy radiation therapy, stroke, head trauma or ischemia. Previously, the use of PARP inhibitors for the treatment of cancer has required its combined use with alkylating agents such as radiation in order to be effective resulting in undesirable side effects. Combining the use of a PARP inhibitor with another efficacy increasing agent would enable more effective treatment with fewer side effects.

## Application area

Increase efficacy with combined treatment of cancer patients with CX-3543 and a PARP inhibitor

## Advantages

Increased efficacy of CX-3543

Reduced side effects when combining a PARP inhibitor with CX-3543 rather than the current combination with radiation therapy

Potential for an increase in the spectrum of tumors amenable to the combined treatment method

## Institution

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