A Method of Treating Ovarian Cancer Using Zeta-Stat

Researchers at the University of South Florida have developed a new chemotherapeutic for the treatment of ovarian cancer using the compound zeta-stat.

Ovarian cancer is known to be the most lethal type of gynecological cancer with an average diagnostic stage of stage III. High fatality rates can be contributed to the fact that there is no efficient screening process. The most common type of ovarian cancer is epithelial ovarian carcinoma, which represents 85-90% of all diagnoses. An overexpression of atypical PKCs (PKC-zeta and others) have been observed in many malignant epithelial ovarian carcinoma cell lines including a subtype known as clear cell ovarian carcinoma (CCOC). Zeta-stat is an identified inhibitor of atypical PKC-zeta. Therefore, an effective treatment utilizing zeta-stat to target atypical PKC-zeta may be an ideal ovarian cancer therapeutic.

USF researchers have successfully treated multiple ovarian cell lines in murine models with the atypical PKC-zeta inhibitor zeta-stat. Assays were completed to determine the effects of this treatment option on proliferation and cellular invasion. These assays included protein quantification, cell proliferation, and wound healing. Xenograph experiments were also performed to determine the effects of zeta-stat on tumor growth in vitro. Results showed that zeta-stat successfully decreased both the proliferation of CCOC cells and wound healing while maintaining body weight in the subjects. This suggests that inhibition of this protein decreases the rate of proliferation, and that PKC-zeta is a novel target in ovarian cancer carcinogenesis.

**ADVANTAGES:**
- A novel ovarian cancer treatment target
- Decreased rate of proliferation
- Decreased wound healing rate
- Body weight is maintained with treatment

**PKC-Zeta As A Novel Target In Ovarian Cancer Carcinogenesis**

![Graph showing A Reduction in Tumor Size was Found in Treated Subjects Versus Controls](image)

Tech ID # 18A122