Cyclic GMP Treatment for Cancer

Researchers at the University of South Florida have discovered that a family of peptides referred to as atrial natriuretic peptides (ANPs) are active against pancreatic adenocarcinomas in vitro and in vivo in an animal model, and against both prostate and breast cancers in vitro.

Human pancreatic adenocarcinoma, the most common form of pancreatic cancer, represents the second most common cause of death for all gastrointestinal malignancies and is typically diagnosed in advanced stages when the only possible remedy is surgical removal. If removal is not an option, survival is limited to less than one year as even chemotherapy and radiation are of marginal clinical benefit. The proposed therapy includes the use of cardiovascular hormones which significantly slow the growth of the pancreatic tumor when compared to test controls.

USF inventors developed a test that revealed that treatment with these peptide hormones is mediated by the intracellular moderator cyclic guanosine monophosphate (cGMP). With cGMP treatment, tumor volume in athymic mice with human pancreatic adenocarcinoma decreased by 95 percent compared with untreated animals over a week’s time.

This invention presents a new and effective approach to cancer treatment.

ADVANTAGES:
- Effectively inhibits human cancer growth in athymic mice
- Specifically inhibits DNA synthesis of cancer cells

Cyclic GMP Decreases Cancer Growth in Animals by 95%

Cyclic GMP Decreases the Growth of Human Pancreatic Adenocarcinomas in Athymic Mice. At the End of 2 Weeks, Tumor Growth was 2 Fold for the cGMP Treated Mice and 69-fold for the Placebo.

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