Eric B. Kmiec Biography

Eric B. Kmiec

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Biography

Eric B. Kmiec, is a molecular biologist, who currently serves as the director of the Laboratory of **Gene Therapy** at the University of Delaware. Prior to that position, Kmiec served as an associate professor of microbiology in the Kimmel Cancer Institute at Thomas Jefferson University in Philadelphia. He also headed up a section on experimental therapeutics and genetic medicine at the Jefferson Center for Biomedical Research. These posts have afforded him opportunity to conduct extensive research in the field of **genetics**. While he has made significant contributions to his field in many areas, Kmiec is best known for pioneering a promising technique for repairing disease causing genetic mutations. This scientific breakthrough lead to his founding of Kimeragen, Inc. in 1994, a **biotechnology** company specifically formed to develop commercial applications for targeted **gene** repair technology.

The focal point of Kmiec's research is in the area of targeted gene repair. The Kmiec laboratory announced findings in 1993, including a basic technique consisting of creating a chimeric oligonulceotide from **RNA bases**, **DNA** bases and modified oligonucleotides to correct genetic mutations in many types of different cells. This seminal work provided the basis for techniques using genetic manipulation to treat diseases such as muscular dystrophy and **sickle cell anemia**. This type of gene repair has also been used in agricultural settings in order to increase crop yields. Another technique currently under investigation is the use of artificial chromosomes in gene therapy.

Kmiec's promising areas of research now focus on gene therapy and genetic manipulation. His laboratory has discovered and cloned several genes involved in the process of transferring genetic material during **recombination** and the process of **DNA repair**, where damaged DNA is restored to its original sequence using information located on the **chromosome**. The study of these processes at the molecular and biochemical level will help to uncover important cellular controls to **gene expression** and regulation which could then be exploited for medical benefit.

The research of Eric B. Kmiec has made important strides towards practical implementation of gene therapies for the treatment of disease.