

Researchers discover technology that silences genes

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Mount Sinai researchers have developed a new gene silencing technology that could be used to target genes that can lead to the development of certain diseases. This technology could pave the way for preventing diseases where gene dysfunction plays a role.

The groundbreaking research was led by Ming-Ming Zhou, Ph.D., Professor and Chairman of the Department of Structural and Chemical Biology at Mount Sinai School of Medicine. The findings, which will be published in the September issue of *Nature Cell Biology*, are available on the magazine's web site as of today.

"By being able to silence certain genes, we may be able to suppress genes that can cause diseases such as HIV/AIDS, cancer, inflammation and diseases of the central and peripheral nervous systems. We now know we can focus on these genes and potentially change the ultimate course of many diseases that have a major impact on people's lives," says Dr. Zhou.

In the study, Dr. Zhou, Shiraz Mujtaba, Ph.D., Assistant Professor of Structural and Chemical Biology at Mount Sinai and their colleagues discovered that *Paramecium bursaria* chlorella virus uses a viral protein to modify host DNA packing chromatin and switch host transcription machinery for viral replication. Based on this finding, researchers were able to develop a new gene targeting technology that effectively suppresses transcriptional expression of targeted genes in human cells, including genes that are linked to the onset of a number of diseases.

Source: The Mount Sinai Hospital

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