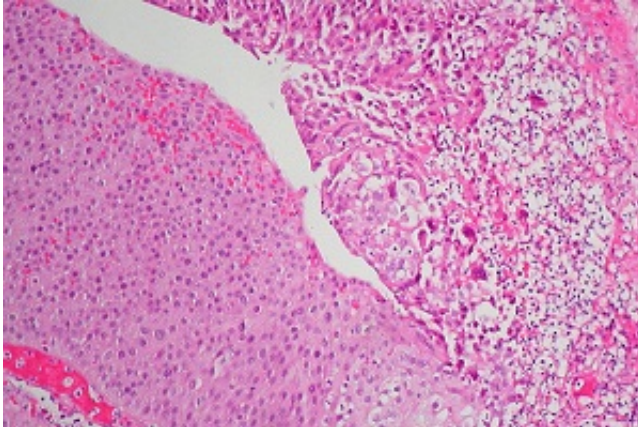


Herpes research turns up genetic combatant

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The research focused on developing small interfering RNA (siRNA) molecules that could silence key targets in the genetic make-up of HSV-1. Credit: Ed Uthman

(Medical Xpress)—A molecule that could potentially be used to fight herpes simplex virus (HSV-1) has been discovered by Curtin University scientists.

Curtin PhD student and University of Chittagong Assistant Professor Adnan Mannan, supervised the study which was designed to find new [drug targets](#) for HSV-1.

His team consisted of students from the University of Chittagong's Genetic Engineering & Biotechnology department.

Prof Mannan says the research is important as the prevalence of HSV-1 is growing worldwide yet effective treatments are still not available.

"Herpes simplex is a very common disease in Bangladesh and sub-continental countries, even in the Western countries, as it is a sexually transmitted disease," he says.

"The virus is something that is unpredictable.

"There still isn't any 100 per cent efficient, gold standard drug against this disease.

"The main problem is the drugs are not working well as they cannot stop the gene response or gene expression [of HSV-1]."

The research focused on developing small interfering RNA (siRNA) molecules that could silence key targets in the genetic make-up of HSV-1.

Using information from previous genetic studies, Prof Mannan and his team used computer software to identify targets for the ICP22 (US1) gene that is found in seven different strains of HSV-1.

"We targeted a gene in the [herpes simplex virus](#) called CP22 (US1) as after [the virus affects] the body, immediately that gene is expressed" Prof Mannan says.

Computational methods were then used to design and test siRNA molecules that could knock down viral activity by silencing the CP22 (US1) gene.

Two effective siRNA [molecules](#) were found.

Prof Mannan hopes these findings will lead to further advancements in the treatment of HSV-1.

"This study has designed a new target against HSV-1," Prof Mannan says.

"We proved the stability of these siRNA in human body cells as well from different parameters by computational tools.

"So this might be a good candidate for drugs like tablets."

The National Prescribing Service says [herpes simplex](#) virus-1 is the cause of cold sores and genital [herpes](#) and currently cannot be cured.

Existing oral anti-viral therapy include the drugs famciclovir and valaciclovir which reduces the length and severity of an HSV-1 outbreak.

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