

Herpes Secrets Revealed **Discovery Sheds Light on Herpes as cancer Therapy**

By:

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Herpes Simplex Virus (HSV) has been known as an important human pathogen all around the world. In recent years, however, the tide has turned and scientists have started to explore the potential use of mutant versions of this virus as specific anti-cancer therapeutics. When Dr. Faris Farassati (Pharm.D., Tabriz Medical Sciences University, IRAN) started his research in 1997 under supervision of Dr. Patrick Lee, Professor in Cancer Biology at the University of Calgary, his Ph.D. thesis project involved mainly the revelation of the mechanism by which such mutant versions of Herpes virus function as anti-cancer agents.

Over a period of four years and half, he has discovered exciting results that have been published in a paper in the August issue of the prestigious international scientific journal, *Nature Cell Biology* and has also been selected by this journal for international press release attracting considerable attention from national and local Canadian news agencies, as well as number of international scientific magazines.



The significance of this discovery is twofold. First, it reveals a novel strategy whereby researchers can design new anti-cancer viruses. Secondly, it sheds light on the development of new agents for the diagnosis and treatment of herpes infections.

“In a sense [this work] is a quantum leap in the field “ says Virologist David A. Leib of Washington university in St. Louis.

“it’s just furthering our understanding of why these things behave the way they do, more than it is sort of saying that this field has some more promises than it did before” explained David Kirn, head of the viral and genetic therapy program at the Imperial Cancer Research Fund in London and a world leader in the field.

“We finally understand how the Herpes virus invades cells. That will allow us to more effectively manipulate Herpes and other viruses as powerful tools to kill cancer” says Lee who co-authored the research paper with Farassati. “Dr. Farassati has been instrumental in working out the mechanism of Herpes infection and in designing new anti-cancer strategies” Dr. Lee continues.



“It is interesting that the same mechanisms that make a cell cancerous can also render it much more sensitive to viruses as compared with a normal cell. Now we can design novel viruses which can attack and kill cancer cells while leaving normal cells untouched,” says Farassati.

“This research will lead to new generations of more specific oncolytic viruses” says Dr. Robert L. Martuza Higgins Professor of Neurosurgery at Harvard University Medical School.

Dr. Farassati is currently pursuing his research interests in designing novel anti-cancer viruses and Cancer Gene Therapy at Massachusetts general hospital-Harvard Medical School.



Dr. Patrick Lee, right, a cancer biologist in the University of Calgary's department of microbiology and infectious diseases, analyses data Wednesday with Dr. Faris Farasati as part of their work on using herpes simplex virus on infected tumour cells.

New virus breakthrough may help eradicate cancer

U of C team uses herpes virus to destroy deadly cells

in the scientific journal *Nature Cell Biology*.

Lee's work provides an important link in our understanding of how viruses can be genetic

are making for cancer therapy."

Lee is known for his work with the reovirus, a naturally occurring bug that poses no threat to humans yet can destroy cancer

growth. But in a cancer cell the Ras pathway is on all of the time. And that is why you get cancer because the light can't be turned off and the cancer cells keep dividing

