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By Joyce Woo

HONG KONG: Scientists in Hong Kong and Canada say they have discovered an inhibitor that acts against the avian flu strain H5N1 and H1N1, a potentially lethal relative of swine flu. The newly developed compound is more effective than antiviral agents currently available, the University of Hong Kong said yesterday.

Microbiologists from the Genome Sciences Centre of

The new inhibitor has been tested on human white blood cells and has proven effective.

ALLAN LAU SIK-YIN
Professor from the University of Hong Kong

the British Columbia Cancer Agency and Cyokine Biology Group and the University of Hong Kong (HKU) said the inhibitor, known at this stage as Compound 1, demonstrated an ability to inhibit H5N1 and H1N1 viral replication in human cells.

The researchers say Compound 1 can inhibit the rate of H5N1 and H1N1 replication in human cells up to 95-98 percent.

Professor Allan Lau Sik-yin from HKU said that the new inhibitor has been tested on human white blood cells and has proven effective. "A 100uM-concentrated dose of the inhibitor will provide protective responses," he added.

But Professor Leo Poon Lit-man of HKU said the

inhibitor has yet to be tested on laboratory animals or humans. It could take up to 8 years, however, before the product comes to the market. "For this compound to be developed as a commercial drug, it will take years as it involves the cooperation of drug companies," Poon added.

The discovery of the new inhibitor is timely. Researchers report the bird flu virus is developing resistance to known antiviral drugs.

Existing antiviral drugs such as oseltamivir, also commonly known as Tamiflu, have proven increasingly ineffective against H1N1.

The New England Journal of Medicine reported that a strain of H1N1 has become resistant to oseltamivir owing to a mutation of the virus. In Japan and Australia, up to 90 percent of H1N1 infection cases are reported resistant to oseltamivir treatment.

Professor Lau said he cannot rule out further mutations of the H1N1 virus that may render the so-called Compound 1 ineffective, saying "his team plans to optimize the efficacy of the new inhibitor."

Hong Kong experienced the world's first major H5N1 bird flu outbreak among humans in 1997, when six people died. Globally 257 people have died of the human form of avian flu since 2003, according to World Health Organization statistics released April 8.

Scientists have expressed fears that the avian virus could mutate into a new form that could spread through human contact. That could lead to a global pandemic. All cases reported among humans thus far have come from direct contact with infected birds.