

# Strategies for developing new antiviral flu drugs

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New analysis of the influenza A virus by scientists at the University of Hertfordshire shows potential for developing new anti-viral drugs which are more likely to be universally effective against the flu virus originating from avian, swine or human virus strains.

The influenza A virus has led to deadly pandemics killing millions of people - such as the Spanish flu pandemic of 1918/19 which killed at least 40 million people, the latest swine flu pandemic in 2009 which killed an estimated 300,000 people, through to the emergence of the current threat of avian H7N7 flu which caused 72 deaths in Asia up to early 2014.

Each year small changes in the influenza virus surface proteins mean that they can escape the human immune system and a new vaccination is necessary. In addition, antiviral drugs such as Tamiflu, become ineffective.

Dr Andreas Kukol, from the University of Hertfordshire's School of Life and Medical Sciences, said: "Our study set out to identify common regions within the various influenza subtypes to identify areas which could be used to develop antiviral drugs. Such antivirals would be effective against all influenza subtypes and also without leading to resistance."

The researchers looked at the nucleoprotein of the influenza virus as this is the area which is active in the infectious life cycle of the virus - and compared the nucleoprotein across different virus types and hosts. They identified regions within the nucleoprotein that are the same across all virus types - called conserved regions.

Dr Kukol continued: "Some of these 'conserved regions' which we identified on the nucleoprotein also overlap with those areas of the protein which antiviral drugs can bind to. Researchers will be able to develop new antiviral drugs using these particular binding sites which will be more likely to be universally effective against the different influenza viruses - and, more than that, they will remain effective as they do not lead to resistance."

*SOURCE [Medical News Today](#)*