

Bird flu and human flu are differentiated

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A U.S. study has found specific key differences between bird flu and human flu that might be used to monitor emerging pandemics.

St. Jude Children's Research Hospital investigators found mutations linked with immune suppression and viral replications differ between bird and human flu viruses and might distinguish influenza viruses found in birds from those that infect humans.

The St. Jude team used a mathematical technique to identify specific amino acid building blocks that are statistically more likely to appear in avian influenza virus proteins and those that are more likely to be in human influenza virus proteins. The differences, they said, can be used as markers to track changes in H5N1 avian influenza strains that threaten humans.

"Influenza mutates rapidly, so that any marker that is not the same in bird flu, but remains stable in human flu, is likely to be important," said David Finkelstein of the St. Jude Hartwell Center for Bioinformatics and Biotechnology. "If human specific markers start accumulating in bird flu viruses that infect humans, that suggests the bird flu may be adapting to humans and could spread."

The study appears in the advanced online edition of the Journal of Virology.

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