A step closer to developing new anti-influenza agents

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James Cook University scientists have developed a new tool that can be used to more rapidly discover and develop new generations of anti-influenza drugs.

Associate Professor Patrick Schaeffer is head of JCU's Supramolecular and Synthetic Biology Group, which is leading the work.

"Recently, a new promising compound called nucleozin was shown by several research groups to have potent anti-influenza activity," Associate Professor Schaeffer said.

"This compound acts by a new mode of action that is to aggregate the essential nucleoprotein resulting in viral replication arrest."

Associate Professor Schaeffer said to develop new, safe and effective anti-influenza drugs acting by this mechanism, millions of compounds like nucleozin will need to be screened and tested for activity.

"The JCU team has developed a new tool that will help speed-up this mammoth task," he said.

"The new screening assay involves a fluorescent nucleoprotein that had previously been engineered by the same group to help the development of a new diagnostic platform for the detection of influenza infections.

"The team will now turn their new screening assay into a high-

throughput screening platform and will then start screening libraries of natural compounds from tropical sources."

The work was funded by Queensland's Smart Futures Fund and has been recently published in the journal *The Analyst*.

More information: Schaeffer, A. A GFP-tagged nucleoprotein-based aggregation assay for anti-influenza drug discovery and antibody development, *Analyst* 2013. DOI: 10.1039/c3an01041d

Morin, I. and Schaeffer, P. Combining RNA-DNA swapping and quantitative polymerase chain reaction for the detection of influenza A nucleoprotein, *Anal Biochem*, 2012. DOI: 10.1016/j.ab.2011.09.009

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