Structural insights into the function of the PB2 subunit of influenza virus polymerase

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The influenza virus polymerase is responsible for transcription and replication of the viral RNA genome. It comprises three subunits, PB1, PB2 and PA.

Using a high throughput screening technique call ESPRIT(1) we have identified two independently folded and soluble domains of PB2 and determined their structures: a C-terminal domain that is required for nuclear import of PB2 and a central domain that has a cap-binding site and is essential for the 'cap-snatching' mechanism of transcription of viral mRNAs. Implications for interaction with host factors, inter-species transmission between avian and human hosts and anti-viral drug design will be discussed.

References

[1] Structure and nuclear import function of the C-terminal domain of influenza virus polymerase PB2 subunit. Tarendeau F, Boudet J, Guilligay D, Mas PJ, Bougault CM, Boulo S, Baudin F, Ruigrok RW, Daigle N, Ellenberg J, Cusack S, Simorre JP, Hart DJ. Nat Struct Mol Biol. 2007, 14(3):229-33.