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Nucleic acid based multi-target approach for effective silencing of *Influenza-A* virus

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A combination of multiple antiviral approaches is required for effective control of influenza-A virus infection. We designed a DNA construct encoding a RNA consisting of M1 gene specific sh-RNA linked to a NP gene specific hammerhead ribozyme through an intracellular cleavable linker. When this construct was introduced into a mammalian cell line along with DNA constructs encoding NP and M1 substrates, a significant inhibition in the production of influenza-A virus was observed. Introduction of mutation in sh-RNA, keeping the ribozyme portion unchanged, decreased the effectiveness of DNA construct in inhibiting the virus production but its effectiveness was much more compromised when the ribozyme portion was mutated and shRNA was kept unchanged. Thus we showed that combination of antiviral approaches could lead to decrease in overall production of influenza virus which under *in vivo* conditions may decrease the severity of diseases.

Biography

Prashant Kumar completed his PhD from University of Delhi. He is an Assistant Professor in Amity Institute of Virology & Immunology, Amity University; a premier private university in India. He has published 15 papers in reputed journals and is the member of various national and international scientific societies. His current projects include development of nucleic acid based therapeutics and immunogens against respiratory viruses.

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