

Abstract

Influenza viruses annually infect 3 to 5 millions of people worldwide, cause annually many hospitalizations, 250 000-500 000 deaths and significant economical losses. The vaccines still remain the most efficient way of prevention of this infectious disease. Conventional egg-based vaccines are used for more than 60 years. Although they are safe, they have many disadvantages. Their main disadvantage is the relatively low effectiveness and time-limited induced immunity. The need for annually updates of their composition due to an antigenic variability of viral surface proteins can be considered a disadvantage as well. What is more, the dependence on an egg supply and a way too long time of preparation might be limiting in the case of pandemic. The development of an universal vaccine that would induce a broad immune response against different strains of Influenza and longlasting protection is a worldwide priority.