Human vaccines for infectious and non-infectious diseases

The variola major, the virus that causes the smallpox, lethal virus in the 30% of the cases, was eradicated in 1979 in the human species, thanks to a capillary vaccination on global scale. Recently the World Health Organization (WHO) declared that India and Southeast Asia are polio-free, really a great achievement since the vaccine for polio, an infectious disease that can cause paralysis, was certificated safe and useful only 60 years ago. Last year over 800 million doses of combination vaccines are used to vaccinate Chinese children whereas more than 20 million children worldwide do not receive one or more important vaccinations that would protect them from at least one preventable disease. HBV virus, responsible for hepatitis B infection is able to prevent 50% of all liver cancers. Human Papilloma Viruses (HPV) has been correlated with the cervical cancer (genotypes 16 and 18 particularly oncogenic in humans): The USA Food and Drug Administration (FDA) in 2006 released the first vaccine against HPV. Long years of research were required for busting the new system to fight cancer. Research is going to obtain the complete sequence by proteomics approaches, in order to achieve adequate antigen preparations that might be used to generate assays for a specific anticancer vaccine. Finally, the ability of the immune system to recognize a tumor-associated antigen, thus enabling development of a vaccine approach for therapeutic application, represents a main target of this field of research.

Biography

Giulio Filippo Tarro was graduated from Medicine School, Naples University in 1962. He was the Research Associate at the Division of Virology and Cancer Research, Children’s Hospital from 1965-1968, Assistant Professor of Research Pediatrics, College Medicine (1968-1969), Cincinnati University, Oncological Virology Professor, Naples University (1972-1985), Chief of Division of Virology (1973-2003), Head of Department Diagnostic Laboratories (2003-2006), D. Cotugno Hospital for Infectious Diseases. Since 2007, he was the Chairman of Committee of Biotechnologies and VirusSphere, World Academy Biomedical Technologies, UNESCO, Adjunct Professor at Department of Biology, Temple University, College of Science and Technology and he has received the Sbarro Health Research Organization Lifetime Achievement Award in 2010. He is also the President of Foundation de Beaumont Bonelli for Cancer Research.

gitarro@tin.it