Special Issue

Development of Oncolytic Viruses as Platforms for Drug Delivery to Cancers

Message from the Guest Editors

Oncolytic viruses (OVs) are a promising and emerging class of antitumoral therapeutics that selectively target cancer cells by exploiting defects in intrinsic antiviral pathways or the presence of specific receptors. While only one OV has been clinically approved so far by the FDA and the EMA, numerous trials are ongoing, and it is therefore conceivable that over the next years there will be more OVs available in clinical practice as new weapons against difficult-to-treat tumors. One of the most interesting features of these vectors is their versatility, which allows OVs to combine direct cytotoxicity, an immunotherapeutic mechanism of action, and the delivery of therapeutic genes and/or drugs to cancers. Most OVs can be engineered to directly encode therapeutic genes, encompassing biological drugs such as immune checkpoint inhibitors. This Special Issue of Pharmaceutics will be focused on the development of oncolytic viruses as platforms for the targeted delivery of drugs to tumors, including both therapeutic genes encoded by the viral genome and proteins or small molecules that can be attached to viral particles before administration.

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