Special Issue

Adeno-Associated Virus Biology and AAV Vector-Mediated Gene Therapy

Message from the Guest Editors

Following their successful use as vectors in gene therapy clinical trials, adeno-associated viruses (AAV) have increased in popularity and have become emblematic viruses of the *Parvovirinae* subfamily. However, grey areas remain in the wild-type AAV life cycle. Whereas AAV was disclosed to the scientific community in 1964, novel coding sequences and proteins were only recently discovered, such as the MAAP (membrane-associated accessory protein) identified by Church's group. Additional knowledge on fundamental biology has a potential impact on AAV vector production, purification and efficiency. In this regard, the assembly-activating protein (AAP) described in 2010 shed new light on the capsid assembly mechanism, leading to a rethinking of Cap ORF molecular design for the generation of AAV variants. This Special Issue of *Microorganisms* invites submissions of manuscripts that address AAV biology and vectorology. Scientific findings must be relevant to recombinant AAV-mediated gene therapy. Original research articles and reviews are welcome. Research areas may include (but are not limited to) the following: genomics, epigenetics, vector design and quality control studies.

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"Microorganism" merges the idea of the very small with the idea of the evolving reproducing organism is a unifying principle for the discipline of microbiology. Our journal recognizes the broadly diverse yet connected nature of microorganisms and provides an advanced publishing forum for original articles from scientists involved in high-quality basic and applied research on any prokaryotic or eukaryotic microorganism, and for research on the ecology, genomics and evolution of microbial communities as well as that exploring cultured microorganisms in the laboratory.

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