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Viruses and the Unfolded Protein Response

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Message from the Guest Editors

Viruses use host cell translation machinery to synthesize viral proteins, and the endoplasmic reticulum (ER) to ensure proper folding, post-translational modification, and trafficking of transmembrane and secreted viral proteins. Overloading the ER's folding capacity activates the unfolded protein response (UPR), whereby the ER stress sensors PERK, IRE1, and ATF6 initiate signals that transiently attenuate translation and stimulate the production of stress-mitigating transcription factors. UPR transcription increases production of ER protein folding machinery, expands the ER's surface area, and increases degradation of misfolded proteins by ER-associated degradation (ERAD). The UPR also plays important roles in cell fate decisions and immune responses. At present, relatively little is known about how viruses manipulate the UPR and the functional consequences of these interactions.

For this Special Issue of *Viruses*, we hope to assemble a collection of research papers and reviews that provide a comprehensive view of this emerging field of virus research. Topics of interest include, but are not limited to:

1. viral protein synthesis and interplay with the UPR and/or the integrated stress response;
2. viral modulation of UPR sensors;
3. viral modulation of UPR transcription;
4. viral control of ERAD;
5. effects of viral infection on UPR-dependent cell differentiation and cell fate;
6. the UPR and viral pathogenesis; and therapeutic targeting of the UPR during viral infection.

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Special Issue

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Message from the Editor-in-Chief

Viruses (ISSN 1999-4915) is an open access journal which provides an advanced forum for studies of viruses. It publishes reviews, regular research papers, communications, conference reports and short notes. Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. The full experimental details must be provided so that the results can be reproduced. We also encourage the publication of timely reviews and commentaries on topics of interest to the virology community and feature highlights from the virology literature in the 'News and Views' section.
Electronic files or software regarding the full details of the calculation and experimental procedure, if unable to be published in a normal way, can be deposited as supplementary material

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