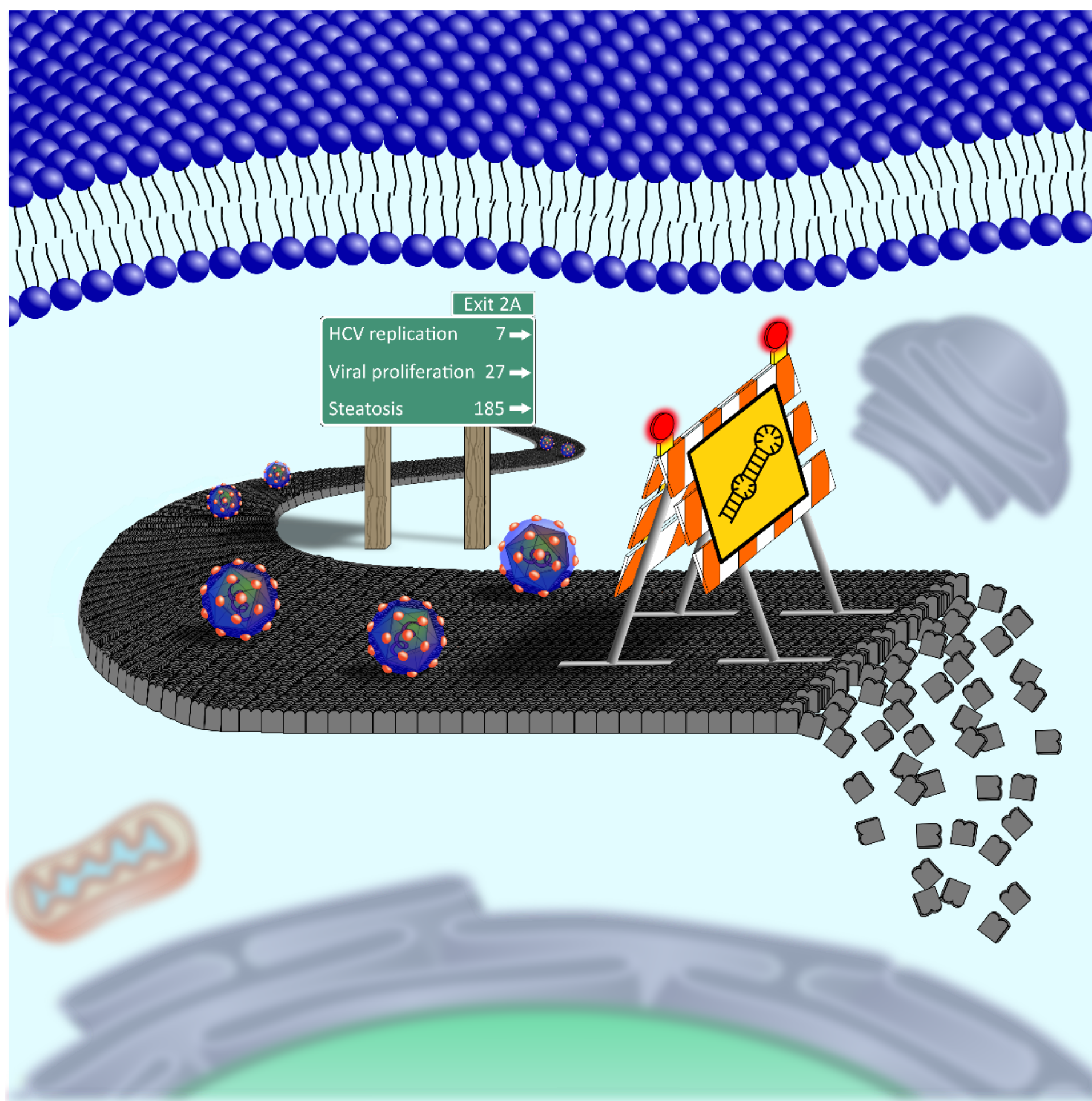




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### Virus-host interactions and ways to stop them



Viruses are obligate parasites that require a living host in order to replicate. Generally, viruses lack the machinery required to translate their genomes into proteins and have no metabolism. Viruses thus usually alter host cellular metabolism in order to meet the material and energy demands of their life cycle. Several viruses induce specific metabolic changes that change the fatty acid/lipid content in the sites of infection that lead to virus-induced membrane alterations, creation of sites for virus replication, as well as lipids for enveloping viral particles. Our lab uses different methods for the discovery of the molecular mechanisms by which different RNA viruses subvert human cell metabolism in order to discover strategies to block virus propagation. Representative examples will be presented where results have led to small molecule, microRNA and even exosomal targets for antiviral development. Furthermore, we have discovered proteins and pathways that are used by multiple viruses that are also regulated by the immune response immune response to infection. Mechanisms of regulation will be presented and discussed. Collectively, the studies presented will illustrate how new methods can be used to uncover the molecular details driving virus-host interactions to facilitate the discovery of biological mechanisms and potential targets for therapeutic intervention.