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Lights on oligomeric complexes between human and virally-encoded G protein-coupled receptors

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Herpesviruses are widespread pathogens that establish lifelong infections in humans. Most herpesviruses have at least one gene encoding for G protein-coupled receptors (GPCRs) that are expressed by human cells upon viral infection. The last decade a lot of evidence has accumulated that GPCRs can form dimers or higher order oligomers. In this study, we evaluated the potential of virally-encoded GPCRs to hetero-oligomerize with human receptors by using a combination of bimolecular luminescence/fluorescence complementation (BiLC/BiFC) and bioluminescence resonance energy transfer (BRET) analyses. Such physical hijacking of human GPCRs by a foreign virally-encoded GPCR can affect their functional properties and consequently contribute to the maintenance of viral infections and/or development of herpesvirus-associated diseases.

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