Video Article

Erratum: Titration of Human Coronaviruses Using an Immunoperoxidase Assay

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Abstract

A correction was made to: Titration of Human Coronaviruses Using an Immunoperoxidase Assay. A revised abstract was republished due to a publisher error.

Revised Abstract:

Determination of infectious viral titers is a basic and essential experimental approach for virologists. Classical plaque assays cannot be used for viruses that do not cause significant cytopathic effects, which is the case for prototype strains 229E and OC43 of human coronavirus (HCoV). Therefore, an alternative indirect immunoperoxidase assay (IPA) was developed for the detection and titration of these viruses and is described herein. Susceptible cells are inoculated with serial logarithmic dilutions of virus-containing samples in a 96-well plate format. After viral growth, viral detection by IPA yields the infectious virus titer, expressed as 'Tissue Culture Infectious Dose 50 percent' (TCID50). This represents the dilution of a virus-containing sample at which half of a series of laboratory wells contain infectious replicating virus. This technique provides a reliable method for the titration of HCoV-229E and HCoV-OC43 in biological samples such as cells, tissues and fluids. This article is based on work first reported in Methods in Molecular Biology (2008) volume 454, pages 93-102.

Original Abstract:

Calculation of infectious viral titers represents a basic and essential experimental approach for virologists. Classical plaque assays cannot be used for viruses that do not cause significant cytopathic effects, which is the case for strains 229E and OC43 of human coronavirus (HCoV). An alternative indirect immunoperoxidase assay (IPA) is herein described for the detection and titration of these viruses. Susceptible cells are inoculated with serial logarithmic dilutions of samples in a 96-well plate. After viral growth, viral detection by IPA yields the infectious virus titer, expressed as "Tissue Culture Infectious Dose" (TCID50). This represents the dilution of a virus-containing sample at which half of a series of laboratory wells contain replicating virus. This technique is a reliable method for the titration of HCoV in biological samples (cells, tissues or fluids).

Protocol

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Disclosures

No conflicts of interest declared.