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Development of A4 antibody for detection of neuraminidase I223R/H275Y-associated antiviral multidrug-resistant influenza virus

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Abstract

The emergence and spread of antiviral drug-resistant viruses have been a worldwide challenge and a great concern for patient care. We report A4 antibody specifically recognizing and binding to the mutant I223R/H275Y neuraminidase and prove the applicability of A4 antibody for direct detection of antiviral multidrug-resistant viruses in various sensing platforms, including naked-eye detection, surface-enhanced Raman scattering-based immunoassay, and lateral flow system. The development of the A4 antibody enables fast, simple, and reliable point-of-care assays of antiviral multidrug-resistant influenza viruses. In addition to current influenza virus infection testing methods that do not provide information on the antiviral drug-resistance of the virus, diagnostic tests for antiviral multidrug-resistant viruses will improve clinical judgment in the treatment of influenza virus infections, avoid the unnecessary prescription of ineffective drugs, and improve current therapies.

논문정보

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