Reduced Omicron virus replication in interferon-competent cells and high Omicron sensitivity to interferon

Martin Michaelis
School of Biosciences,
University of Kent, Canterbury, UK
M.Michaelis@kent.ac.uk
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Jindrich Cinatl
Goethe-University Frankfurt am Main

Denisa Bojkova
Goethe-University Frankfurt am Main

Martin Michaelis & Mark Wass
University of Kent
Antiviral drugs are effective against Omicron viruses
Reduced Omicron virus replication in interferon-competent cells
Reduced Omicron virus replication in interferon-competent cells

Figure 1

- **A**: TCID50/ml for Caco-2 and Calu-3 cells under mock, Delta, Omicron 1, and Omicron 2 conditions.
- **B**: Western blot of STAT1 and pSTAT1 in Caco-2 cells under mock, Delta, Omicron 1, and Omicron 2 conditions.
- **C**: Graph showing the percentage of infected cells for different strains.
- **D**: Graph showing the induction of pSTAT1 ratio (FC to mock) and the expression of IFN-β reporter (Absorbance) under different conditions.
Omicron viruses are highly sensitive to interferon

Figure 1

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IFNα

- Delta IC50: >100
- Omicron 1 IC50: 0.32
- Omicron 2 IC50: 0.71

IFNβ

- Delta IC50: 0.115
- Omicron 1 IC50: 0.040
- Omicron 2 IC50: 0.077

IFNγ

- Delta IC50: >1
- Omicron 1 IC50: 0.35
- Omicron 2 IC50: 0.71

Caco-2

% of inhibition

Concentration (ng/ml)

Calu-3

% of inhibition

Concentration (ng/ml)
Omicron viruses are highly sensitive to interferon

Figure 1

![Graph showing the sensitivity of Omicron viruses to interferon and antiviral drugs. The x-axis represents the concentration of IFNβ (ng/ml), and the y-axis represents the percentage of inhibition (Omicron 1). The graph compares the effects of IFNβ alone and in combination with nirmatrelvir and remdesivir at different concentrations.]
Conclusions

- Omicron variant viruses replicate less efficiently in interferon-competent cells.
- Omicron variant viruses induce an enhanced interferon response.
- Omicron variant viruses are highly sensitive to interferons.
- The anti-Omicron activity of interferons is further increased by other antiviral agents.
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