

Zurückgezogene Publikation: „Corona Impfung“ beeinträchtigt DNA Reparaturmechanismen

Description

Jiang, H., & Mei, Y. F. (2021). SARS-CoV-2 Spike Impairs DNA Damage Repair and Inhibits V(D)J Recombination In Vitro. *Viruses*, 13(10), 2056. doi.org/10.3390/v13102056 (Retraction published *Viruses*. 2022 May 10;14(5):)

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TI - SARS-CoV-2 Spike Impairs DNA Damage Repair and Inhibits V(D)J Recombination In Vitro.

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AB - Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has led to coronavirus disease 2019 (COVID-19) pandemic, severely affecting public health and the global economy. Adaptive immunity plays a crucial role in fighting against SARS-CoV-2 infection and directly influences the clinical outcomes of COVID-19 patients. Clinical studies have indicated that patients with severe COVID-19 exhibit delayed and weak adaptive immune responses; however, the mechanism by which SARS-CoV-2 impedes adaptive immunity remains unclear. Here, by using an *in vitro* cell line, we report that the SARS-CoV-2 spike protein significantly inhibits DNA damage repair, which is required for effective V(D)J recombination in adaptive immunity. Mechanistically, we found that the spike protein localizes in the nucleus and inhibits DNA damage repair by impeding key DNA repair proteins BRCA1 and 53BP1 recruitment to the damage site. Our findings reveal a potential molecular mechanism by which the spike protein might impede adaptive immunity and underscore the potential side effects of full-length spike-based vaccine.

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PT - Research Support, Non-U.S. Gov't
PT - Retracted Publication
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TA - Viruses
JT - Viruses
JID - 101509722
RN - 0 (Antibodies, Neutralizing)
RN - 0 (Antibodies, Viral)
RN - 0 (BRCA1 Protein)
RN - 0 (BRCA1 protein, human)
RN - 0 (COVID-19 Vaccines)
RN - 0 (Spike Glycoprotein, Coronavirus)
RN - 0 (TP53BP1 protein, human)
RN - 0 (Tumor Suppressor p53-Binding Protein 1)
RN - 0 (spike protein, SARS-CoV-2)
SB - IM
ECI - Viruses. 2021 Dec 22;14(1):. PMID: 35062216
RIN - Viruses. 2022 May 10;14(5):. PMID: 35632859
MH - Adaptive Immunity/*immunology
MH - Antibodies, Neutralizing/blood/immunology
MH - Antibodies, Viral/blood/immunology
MH - BRCA1 Protein/antagonists & inhibitors
MH - CD4 Lymphocyte Count
MH - CD8-Positive T-Lymphocytes/immunology
MH - COVID-19/*pathology
MH - COVID-19 Vaccines/immunology
MH - Cell Line
MH - DNA Damage/genetics
MH - DNA Repair/*genetics
MH - HEK293 Cells
MH - Humans
MH - Immunity, Humoral/immunology
MH - Immunosuppression Therapy
MH - SARS-CoV-2/genetics/*immunology
MH - Spike Glycoprotein, Coronavirus/*genetics/immunology
MH - T-Lymphocytes, Helper-Inducer/immunology
MH - Tumor Suppressor p53-Binding Protein 1/antagonists & inhibitors
MH - V(D)J Recombination/*genetics
PMC - PMC8538446
OTO - NOTNLM
OT - *DNA damage repair
OT - *SARS-CoV-2
OT - *V(D)J recombination
OT - *spike
OT - *vaccine
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