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<https://www.immunity.org.uk/articles/felix-de-fries/>

To those affected
their doctors and caretakers
To Groups and Institutions
To Media

Zürich den 15th December 2021

Covid-Vaccines: Breakthrough Infections and adverse effects

Dear Sir/Madam

The appearance of Omicron, a new mutant of SARS-Cov-2 in South Africa and many other countries, once again raises the fundamental questions about the virus, its spread and its mutation, which we have tried to treat in various documents with references since spring 2020.

Is this new mutant, which shows changes in many points, arisen in the organism of people who were unable to produce effective antibodies against SARS-Cov-2, due to co-infections or chronic diseases that require the daily intake of medications, decrease in the effectiveness of antibodies after vaccination or as a result of vaccine pressure on SARS-Cov-2 viruses, in the course of changes in the environmental conditions of their carriers, or is it originated in animal host organisms, from which they then spread to humans again?

Where did 'weird'Omicron come from?

HTML] Covid-19: Omicron may be more transmissible than other variants and partly resistant to existing vaccines, scientists fear

[\[HTML\] bmj.com](https://www.bmj.com)

[HTML] SARS-CoV-2 Lambda variant exhibits higher infectivity and immune resistance

[HTML] [biorxiv.org](https://www.biorxiv.org)

[The emergence of SARS-CoV-2 variant lambda (C. 37) in South America

[HTML] [asm.org](https://www.asm.org)

[HTML] Infectivity and immune escape of the new SARS-CoV-2 variant of interest Lambda

[HTML] [medrxiv.org](https://www.medrxiv.org)

Genomic analysis reveals a rapid spread and predominance of lambda (C. 37) SARS-COV-2 lineage in Peru despite circulation of variants of concern

[HTML] [nih.gov](https://www.nih.gov)

Shortening Epitopes to Survive: The Case of SARS-CoV-2 Lambda Variant

[HTML] [mdpi.com](https://www.mdpi.com)

The Lambda variant of SARS-CoV-2 has a better chance than the Delta variant to escape vaccines

[PDF] [biorxiv.org](https://www.biorxiv.org)

[HTML] Emerging vaccine-breakthrough SARS-CoV-2 variants

[HTML] [nih.gov](https://www.nih.gov)

Comparison of neutralizing antibody titers elicited by mRNA and adenoviral vector vaccine against SARS-CoV-2 variants

[PDF] [biorxiv.org](https://www.biorxiv.org)

[HTML] Evidence for retained spike-binding and neutralizing activity against emerging SARS-CoV-2 variants in serum of COVID-19 mRNA vaccine recipients

[HTML] [sciencedirect.com](https://www.sciencedirect.com)

Reduced sensitivity of the SARS-CoV-2 Lambda variant to monoclonal antibodies and neutralizing antibodies induced by infection and vaccination

[HTML] [tandfonline.com](https://www.tandfonline.com)Full View

[\[HTML\] Viral Dynamics of SARS-CoV-2 Variants in Vaccinated and Unvaccinated Persons](#)

[\[HTML\] nejm.org](#)

[Association between mRNA vaccination and COVID-19 hospitalization and disease severity](#)

[HTML\] jamanetwork.com](#)

[\[HTML\] Initial report of decreased SARS-CoV-2 viral load after inoculation with the BNT162b2 vaccine](#)

[\[HTML\] nature.com](#)

[\[HTML\] Efficacy of the ChAdOx1 nCoV-19 Covid-19 vaccine against the B.1.351 variant](#)

[\[HTML\] nejm.org \[PDF\]](#)

[\[HTML\] Sensitivity of SARS-CoV-2 B.1.1.7 to mRNA vaccine-elicited antibodies](#)

[\[HTML\] nature.com](#)

[\[PDF\] Comparison of SARS-CoV-2 antibody response following vaccination with BNT162b2 and mRNA-1273](#)

[\[PDF\] jamanetwork.com](#)

[Rate and Risk Factors for Breakthrough SARS-CoV-2 infection After Vaccination](#)

[HTML\] nih.gov](#)

[mRNA vaccination boosts cross-variant neutralizing antibodies elicited by SARS-CoV-2 infection](#)

[\[PDF\] sciencemag.org](#)

[mRNA-based COVID-19 vaccine boosters induce neutralizing immunity against SARS-CoV-2 Omicron variant](#)

[HTML\] nih.gov](#)

[Distinct antibody and memory B cell responses in SARS-CoV-2 naïve and recovered individuals after mRNA vaccination](#)

[\[HTML\] science.org](#)

[\[HTML\] The impact of vaccination on coronavirus disease 2019 \(COVID-19\) outbreaks in the United States](#)

[\[HTML\] oup.com](#)

[Effectiveness of Covid-19 vaccination against risk of symptomatic infection, hospitalization, and death up to 9 months: a Swedish total-population cohort study](#)

[\[PDF\] docdroid.com](#)

[\[HTML\] Antibody responses to SARS-CoV-2 vaccines in 45,965 adults from the general population of the United Kingdom](#)

[\[HTML\] nature.com](#)

Despite the high initial effect of mRNA vaccines and vector vaccines, it became clear that their effectiveness against infections and reinfections decreases significantly over time, first in older patients with chronic diseases and within around 6 months in all vaccinated persons. The concept of directing the immunity to the virus and its capability of variation by the mRNA vaccine with impact on B-cells and T-cells did only work out for six months, when its effects declined. Andrew Larkin and Howard Waitzkin showed the missing of real case-numbers, which would be necessary to quantify adverse effects.

[COVID-19 vaccines and evidence-based medicine](#)

[\[HTML\] medrxiv.org](#)

[BNT162b2 vaccine breakthrough: clinical characteristics of 152 fully vaccinated hospitalized COVID-19 patients in Israel](#)

[\[HTML\] nih.gov](#)

[SARS-CoV-2 variants: Relevance for symptom granularity, epidemiology, immunity \(herd, vaccines\), virus origin and containment?](#)

[\[HTML\] nih.gov](#)

[\[HTML\] ... Breakthrough Infection in a Healthcare Professional Working in the Isolation Area of a Hospital Designated for Treating COVID-19 Patients—Shaanxi Province ...](#)

[\[HTML\] nih.gov](#)

[Break-through COVID-19 infection rate with Indian strain in single-center healthcare Workers—A real world data](#)

[PDF] [medrxiv.org](#)

[\[HTML\] Clinical characterization and genomic analysis of samples from COVID-19 breakthrough infections during the second wave among the various states of India](#)

[HTML] [mdpi.com](#)

[\[HTML\] Post-vaccination SARS-CoV-2 infections and incidence of presumptive B. 1.427/B. 1.429 variant among healthcare personnel at a northern California ...](#)

HTML] [bvsalud.org](#)

[\[HTML\] Virological and serological kinetics of SARS-CoV-2 Delta variant vaccine-breakthrough infections: a multi-center cohort study](#)

HTML] [sciencedirect.com](#)

[\[HTML\] COVID-19 Vaccine Breakthrough Infections Reported to CDC—United States, January 1–April 30, 2021](#)

HTML] [nih.gov](#)

[Severe breakthrough COVID-19 infections in Scotland—implications for immunisation programmes](#)

[HTML] [nih.gov](#)

[\[HTML\] An observational study of breakthrough SARS-CoV-2 Delta variant infections among vaccinated healthcare workers in Vietnam](#)

[HTML] [sciencedirect.com](#)

[Longitudinal analysis of SARS-CoV-2 vaccine breakthrough infections reveal limited infectious virus shedding and restricted tissue distribution](#)

PDF] [medrxiv.org](#)

[Antigenic minimalism of SARS-CoV-2 is linked to surges in COVID-19 community transmission and vaccine breakthrough infections](#)

[PDF] [medrxiv.org](#)

[HTML] Evidence for increased breakthrough rates of SARS-CoV-2 variants of concern in BNT162b2-mRNA-vaccinated individuals

[HTML] [nature.com](#)

[HTML] Correlates of neutralizing/SARS-CoV-2-S1-binding antibody response with adverse effects and immune kinetics in BNT162b2-vaccinated individuals

[HTML] [nature.com](#)

[HTML] SARS-CoV-2 variants of concern partially escape humoral but not T-cell responses in COVID-19 convalescent donors and vaccinees

[HTML] [sciencemag.org](#)

Immune Evasion of SARS-CoV-2 Emerging Variants: What Have We Learnt So Far?

[PDF] [mdpi.com](#)

Comparing COVID-19 vaccines for their characteristics, efficacy and effectiveness against SARS-CoV-2 and variants of concern: A narrative review

[HTML] [nih.gov](#)

Post-vaccination COVID-19: A case-control study and genomic analysis of 119 breakthrough infections in partially vaccinated individuals

[PDF] [ucl.ac.uk](#)

[HTML] Severe SARS-CoV-2 breakthrough reinfection with Delta variant after recovery from breakthrough infection by Alpha variant in a fully vaccinated health worker

[HTML] [frontiersin.org](#)

Immune Responses in Fully Vaccinated Individuals Following Breakthrough Infection with the SARS-CoV-2 Delta Variant in Provincetown, Massachusetts

[PDF] [medrxiv.org](#)

Effectiveness of COVID-19 Vaccines Against SARS-CoV-2 Infection During a Delta Variant Epidemic Surge in Multnomah County, Oregon, July 2021

[PDF] [medrxiv.org](#)

[\[HTML\] Virological and serological kinetics of SARS-CoV-2 Delta variant vaccine-breakthrough infections: a multi-center cohort study](#)

[\[HTML\] medrxiv.org](#)

[Delta variant and mRNA Covid-19 vaccines effectiveness: higher odds of vaccine infection breakthroughs](#)

[\[PDF\] medrxiv.org](#)

[\[HTML\] ... vaccines in preventing SARS-CoV-2 infection among nursing home residents before and during widespread circulation of the SARS-CoV-2 B. 1.617. 2 \(Delta ...](#)

[\[HTML\] nih.gov](#)

[HTML\] Outcomes among patients with breakthrough SARS-CoV-2 infection after vaccination](#)

[\[HTML\] sciencedirect.com](#)

[\[HTML\] Association of prior SARS-CoV-2 infection with risk of breakthrough infection following mRNA vaccination in Qatar](#)

[\[HTML\] jamanetwork.com](#)

[Break-through COVID-19 infection rate with Indian strain in single-center healthcare Workers–A real world data](#)

[\[PDF\] medrxiv.org](#)

[\[HTML\] Viral loads of Delta-variant SARS-CoV-2 breakthrough infections after vaccination and booster with BNT162b2](#)

[\[HTML\] nature.com](#)

[The SARS-CoV-2 mRNA vaccine breakthrough infection phenotype includes significant symptoms, live virus shedding, and viral genetic diversity](#)

[PDF\] oup.com](#)

[\[HTML\] Comparison of two highly-effective mRNA vaccines for COVID-19 during periods of Alpha and Delta variant prevalence](#)

[HTML\] nih.gov](#)

[\[HTML\] Effectiveness of BNT162b2 Vaccine against Delta Variant in Adolescents](#)

[\[HTML\] nejm.org](#)

[Impact of the Delta variant on vaccine efficacy and response strategies](#)

[\[HTML\] nih.gov](#)

[Effectiveness of mRNA-1273 against Delta, Mu, and other emerging variants](#)

[\[PDF\] medrxiv.org](#)

[mRNA vaccines induce durable immune memory to SARS-CoV-2 and variants of concern](#)

[\[HTML\] science.org](#)

[\[HTML\] Antibody resistance of SARS-CoV-2 variants B. 1.351 and B. 1.1. 7](#)

[\[HTML\] nature.com](#)

[Prior SARS-CoV-2 infection rescues B and T cell responses to variants after first vaccine dose](#)

[\[PDF\] sciencemag.org](#)

[Transmission of SARS-CoV-2 variant B. 1.1. 7 among vaccinated health care workers](#)

[\[HTML\] nih.gov](#)

[Association of Vaccine Type and Prior SARS-CoV-2 Infection With Symptoms and Antibody Measurements Following Vaccination Among Health Care Workers](#)

[\[PDF\] jamanetwork.com](#)

[SARS-CoV-2 variants of concern partially escape humoral but not T cell responses in COVID-19 convalescent donors and vaccine recipients](#)

[\[HTML\] sciencemag.org](#)

[\[HTML\] A French cohort for assessing COVID-19 vaccine responses in specific populations](#)

[\[HTML\] nature.com](#)

[\[HTML\] Confronting the delta variant of SARS-CoV-2, summer 2021](#)

[\[HTML\] jamanetwork.com](#)

[\[HTML\] Community transmission and viral load kinetics of the SARS-CoV-2 delta \(B. 1.617. 2\) variant in vaccinated and unvaccinated individuals in the UK: a ...](#)

[\[HTML\] sciencedirect.com](#)

[\[HTML\] Breakthrough Infections of SARS-CoV-2 Gamma variant in fully vaccinated gold miners, French Guiana, 2021](#)

[\[HTML\] nih.gov](#)

[\[HTML\] Vaccine breakthrough infection and onward transmission of SARS-CoV-2 Beta \(B. 1.351\) variant, Bavaria, Germany, February to March 2021](#)

[\[HTML\] eurosurveillance.org](#)

In patients who must take immunosuppressive substances and in patients with chronic illnesses, vaccination breakthroughs and the formation of variants are more common.

[\[HTML\] SARS-CoV-2 Variants in Patients with Immunosuppression](#)

[\[HTML\] nejm.org](#)

[Immunogenicity of the BNT162b2 COVID-19 mRNA vaccine and early clinical outcomes in patients with haematological malignancies in Lithuania: a national ...](#)

[HTML\] nih.gov](#)

[Impaired humoral and cellular immunity after SARS-CoV2 BNT162b2 \(Tozinameran\) prime-boost vaccination in kidney transplant recipients](#)

[\[PDF\] jci.org](#)

[Clinical characteristics and outcomes of COVID-19 breakthrough infections among vaccinated patients with systemic autoimmune rheumatic diseases](#)

[PDF\] bmj.com](#)

[Association of BNT162b2 mRNA and mRNA-1273 Vaccines With COVID-19 Infection and Hospitalization Among Patients With Cirrhosis](#)

[\[HTML\] jamanetwork.com](#)

Durability of Response to SARS-CoV-2 BNT162b2 Vaccination in Patients on Active Anticancer Treatment

[HTML](#) | [jamanetwork.com](#)

Case study: prolonged infectious SARS-CoV-2 shedding from an asymptomatic immunocompromised individual with cancer

[PDF] [cell.com](#)

Evaluation of COVID-19 vaccine breakthrough infections among immunocompromised patients fully vaccinated with BNT162b2

[PDF] [medrxiv.org](#)

Increased risk for COVID-19 breakthrough infection in fully vaccinated patients with substance use disorders in the United States between December 2020 and ...

[PDF] [wiley.com](#) Full View

This has raised again the question of which non-viral factors could be active in the background of Covid-19 and what leads to Long-Covid, occurring more often after artificial ventilation.

Fatigue and Cognitive Impairment in Post-COVID-19 Syndrome: A Systematic Review and Meta-Analysis

[HTML] [nih.gov](#)

Long-term symptoms after SARS-CoV-2 infection in children and adolescents

[PDF] [jamanetwork.com](#)

Breakthrough Symptomatic COVID-19 Infections Leading to Long Covid: Report from Long Covid Facebook Group Poll

[PDF] [medrxiv.org](#)

[HTML] The Pathogenesis of Long-Term Neuropsychiatric COVID-19 and the Role of Microglia, Mitochondria, and Persistent Neuroinflammation: A Hypothesis

[HTML] [nih.gov](#)

[Attributes and predictors of Long-COVID: analysis of COVID cases and their symptoms collected by the Covid Symptoms Study App](#)

[PDF](#) [medrxiv.org](#)

[Age-related factors that affect B cell responses to vaccination in mice and humans](#)

[\[HTML\]](#) [nih.gov](#)

[T cell and antibody kinetics delineate SARS-CoV-2 peptides mediating long-term immune responses in COVID-19 convalescent individuals](#)

[PDF](#) [sciencemag.org](#)

[Stereotypic neutralizing VH antibodies against SARS-CoV-2 spike protein receptor binding domain in patients with COVID-19 and healthy individuals](#)

[PDF](#) [sciencemag.org](#)

[Abnormal antibodies to self-carbohydrates in SARS-CoV-2 infected patients](#)

[HTML](#) [nih.gov](#)Free from Publisher

[Systemic and mucosal immune profiling in asymptomatic and symptomatic SARS-CoV-2–infected individuals reveal unlinked immune signatures](#)

[\[PDF\]](#) [science.org](#)

[Glycans of SARS-CoV-2 spike protein in virus infection and antibody production](#)

[\[HTML\]](#) [frontiersin.org](#)

[Hybrid immunity](#)

[\[HTML\]](#) [science.org](#)

[COVID-19 and gastrointestinal tract symptoms: recognition, containment, and learning from the past](#)

[HTML](#) [mayoclinicproceedings.org](#)

[\[HTML\] ... spatial modeling of viral infection, immune response and drug therapy timing and efficacy in epithelial tissues: A multiscale model of viral infection in epithelial ...](#)

[\[HTML\]](#) [nih.gov](#)Free from Publisher

[\[PDF\] Susceptibility of the elderly to SARS-CoV-2 infection: ACE-2 overexpression, shedding, and antibody-dependent enhancement \(ADE\)](#)

[\[PDF\] scielo.br](#)

[\[HTML\] Global pandemics interconnected—obesity, impaired metabolic health and COVID-19](#)

[\[HTML\] nature.com](#)

[\[HTML\] Sex differences in inflammation, redox biology, mitochondria and autoimmunity](#)

[\[HTML\] sciencedirect.com](#)

[Could changes in the airborne pollutant particulate matter acting as a viral vector have exerted selective pressure to cause COVID-19 evolution?](#)

[\[HTML\] nih.gov](#)

[Weather variability and COVID-19 transmission: A review of recent research](#)

[PDF\] mdpi.com](#)

[\[HTML\] Indoor versus outdoor transmission of SARS-COV-2: environmental factors in virus spread and underestimated sources of risk](#)

[\[HTML\] springer.com](#)

[\[HTML\] Role of indoor aerosols for COVID-19 viral transmission: a review](#)

[\[HTML\] springer.com](#)

[\[HTML\] Toward an early warning system for health issues related to particulate matter exposure in Brazil: the feasibility of using global PM2.5 concentration forecast ...](#)

[HTML\] mdpi.com](#)

[Role of the chronic air pollution levels in the Covid-19 outbreak risk in Italy](#)

[\[HTML\] nih.gov](#)

[COVID-19 and its relationship to particulate matter pollution—Case study from part of greater Chennai, India](#)

[\[HTML\] nih.gov](#)

[Associations between mortality from COVID-19 in two Italian regions and outdoor air pollution as assessed through tropospheric nitrogen dioxide](#)

[\[HTML\] nih.gov](#)

[Same pollution sources for climate change might be hyperactivating the NLRP3 inflammasome and exacerbating neuroinflammation and SARS mortality](#)

[HTML\] nih.gov](#)

[The effect of environmental diesel exhaust pollution on SARS-CoV-2 infection: The mechanism of pulmonary ground glass opacity](#)

[HTML\] nih.gov](#)

[Multiple relationships between aerosol and COVID-19: A framework for global studies](#)

[HTML\] nih.gov](#)

<https://www.immunity.org.uk/wp-content/uploads/2021/03/Mutations-turn-up.pdf>

<https://www.immunity.org.uk/wp-content/uploads/2021/03/SARS-Cov-2-Spillover-particulate-matter-and-mutation-final-version-new.pdf>

<https://www.immunity.org.uk/wp-content/uploads/2021/03/Covid-Mutants-2.pdf>

As a solution to the problem of a continuously decreasing effectiveness of Covid-19 mRNA vaccines, the booster vaccination was proposed, in which the effectiveness of a double vaccination is boosted by a third one. After this third vaccination, many people in Israel have already received a fourth vaccination. Although the mRNA vaccines from Biontech-Pfizer and Moderna have not been newly formulated, they should work now as boosters against the Delta variant and according to Christian Drosten, be administered much earlier, already after 3 months. A newly formulated mRNA vaccine, effective against the new variants could not become available before three or four months and then had to be tested for its

effectiveness and adverse effects. In China, however, a new vaccine against the Delta variant was developed, which shows to be effective. As new studies reveal, booster-vaccinations may induce additional titers of neutralizing antibodies in the recently twice vaccinated and to some extent to earlier vaccinated after the infection, but fail to induce sufficient neutralizing antibodies in many twice vaccinated, so that the message, that the booster-vaccinations with mRNA-vaccines and Vector vaccines may protect vaccinees for longer time of an Omicron infections is without evidence.

[Effectiveness of inactivated SARS-CoV-2 vaccines against the Delta variant infection in Guangzhou: a test-negative case-control real-world study](#)

[PDF] [tandfonline.com](#) Full View

[mRNA-based COVID-19 vaccine boosters induce neutralizing immunity against SARS-CoV-2 Omicron variant](#)

HTML] [nih.gov](#)

[Antibody titers before and after a third dose of the SARS-CoV-2 BNT162b2 vaccine in adults aged \$\geq\$ 60 years](#)

HTML] [jamanetwork.com](#)

[\[HTML\] Effectiveness of COVID-19 vaccines against Omicron or Delta infection](#)

[HTML] [medrxiv.org](#)

[\[HTML\] SARS-CoV-2 neutralization with BNT162b2 vaccine dose 3](#)

HTML] [nejm.org](#)

[\[HTML\] Boosting immunity to COVID-19 vaccines](#)

[HTML] [nature.com](#)

[Cross reactivity of spike glycoprotein induced antibody against Delta and Omicron variants before and after third SARS-CoV-2 vaccine dose in healthy and ...](#)

[PDF] [medrxiv.org](#)

Breakthrough infections with SARS-CoV-2 Omicron variant despite booster dose of mRNA vaccine

[PDF] [iex.nl](#)

Monoclonal antibodies prove to be an effective therapy against Covid-19 even in vaccination breakthroughs.

[HTML] Monoclonal antibody therapy in a vaccine breakthrough SARS-CoV-2 hospitalized delta (B. 1.617. 2) variant case

HTML] [sciencedirect.com](#)

The spread of Covid-19 infections seems to be independent of the vaccination rate in individual states of the USA by now.

Increases in COVID-19 are unrelated to levels of vaccination across 68 countries and 2947 counties in the United States

[HTML] [springer.com](#)

Lipid-Nanoparticles are critical to the success of mRNA vaccines. Thanks to their multi-layered composition and their specially structured surface, they have become an independent method for the treatment of chronic diseases and cancer since some years. Their various components, which belong to the most varied of substance classes such as phosphocholine lipids Tris-HC-1 buffer, carboxylic ester bonds and trehalose are brought together in several steps to form lipid nanoparticles, which should allow be transport of its ingredients precisely into the cells of individual organs. In the case of the enveloped mRNA vaccines, they should become able to enter the cells through their membranes, ensure the protection of the mRNA from degradation and its transport to the cytosol, where they pass on the blueprints for the spike proteins to be formed also in exosomes before they are gradually broken down. This chargeable, ionizable nanoparticles are supposed to undermine the recognition by the immune system and ensure the

release of their ingredients in the cell. Due to their special electrostatic properties, which became visible in microscopic examinations, it was assumed that they contain graphene, used in nanoparticles for cancer therapy. Polyethylene glycol (PEG), which is used to preserve these nanoparticles, induces allergic immune reactions. As leading specialists state the breakdown of such nanoparticles in the cell has not yet been fully clarified, so that their adverse effects will have to be monitored in the next years, as they cannot be ruled out in the longer term due to declining short-term reactions.

[Nanotechnology for COVID-19: therapeutics and vaccine research](#)

[\[HTML\] acs.org](#)

[Nanotechnology-Assisted RNA Delivery: From Nucleic Acid Therapeutics to COVID-19 Vaccines](#)

[\[HTML\] nih.gov](#)

[COVID-19 infection and nanomedicine applications for development of vaccines](#)

[HTML\] nih.gov](#)

[Non-viral COVID-19 vaccine delivery systems](#)

[\[HTML\] nih.gov](#)

[Recent Progress in Modified Polymer-Based PPE in Fight Against COVID-19 and Beyond](#)

[\[HTML\] acs.orgFull View](#)

[\[The role of lipid metabolism in COVID-19 virus infection and as a drug target](#)

[\[PDF\] mdpi.com](#)

[\[HTML\] Other excipients than PEG might cause serious hypersensitivity reactions in COVID-19 vaccines](#)

[\[HTML\] nih.gov](#)

[Nanoparticles in the clinic: An update post COVID-19 vaccines](#)

[\[PDF\] wiley.com](#)

[The dawn of mRNA vaccines: The COVID-19 case](#)

[\[HTML\] nih.gov](#)

[Nano-enabled COVID-19 vaccines: meeting the challenges of durable antibody plus cellular immunity and immune escape](#)

[\[HTML\] nih.gov](#)

[\[HTML\] Clinical progress of nanomedicine-based RNA therapies](#)

[HTML\] sciencedirect.com](#)

[\[HTML\] mRNA vaccines for infectious diseases: Principles, delivery and clinical translation](#)

[HTML\] nature.com](#)

[Difference in the lipid nanoparticle technology employed in three approved siRNA \(Patisiran\) and mRNA \(COVID-19 vaccine\) drugs](#)

[\[HTML\] nih.gov](#)

[The form of PEG matters: PEG conjugated with lipids and not PEG alone could be the specific form involved in allergic reactions to COVID-19 vaccines](#)

[\[PDF\] wiley.com](#)

[\[HTML\] Review on up-to-date status of candidate vaccines for COVID-19 disease](#)

[\[HTML\] nih.gov](#)

[\[HTML\] Lipid nanoparticles for mRNA delivery](#)

[\[HTML\] nature.com](#)

[Cytosolic delivery of nucleic acids: The case of ionizable lipid nanoparticles](#)

[\[PDF\] wiley.com](#)

[mRNA-lipid nanoparticle COVID-19 vaccines: structure and stability](#)

[\[PDF\] universiteitleiden.nl](#)

[Role of Ionizable Lipids in SARS-CoV-2 Vaccines As Revealed by Molecular Dynamics Simulations: From Membrane Structure to Interaction with mRNA Fragments](#)

[HTML](#) [europepmc.org](#)

[Role of nanotechnology behind the success of mRNA vaccines for COVID-19](#)

[HTML](#) [nih.gov](#)

[The landscape of nanotechnology strategies against COVID-19: products and diagnostics, vaccines and treatments](#)

[HTML](#) [scielo.org.ar](#)

[Functionalized lipid-like nanoparticles for in vivo mRNA delivery and base editing](#)

[HTML](#) [sciencemag.org](#)Free from Publisher

[Can graphene take part in the fight against COVID-19?](#)

[HTML](#) [nih.gov](#)

[Effect of protein corona on the transfection efficiency of lipid-coated graphene oxide-based cell transfection reagents](#)

[PDF](#) [mdpi.com](#)

[Large-Sized Graphene Oxide Nanosheets Increase DC–T-Cell Synaptic Contact and the Efficacy of DC Vaccines against SARS-CoV-2](#)

[HTML](#) [nih.gov](#)

[Cleavable PEGylation: a strategy for overcoming the “PEG dilemma” in efficient drug delivery](#)

[PDF](#) [tandfonline.com](#)

[Nanoparticle-mediated cytoplasmic delivery of messenger RNA vaccines: challenges and future perspectives](#)

[HTML](#) [springer.com](#)

[Advances in gene-based vaccine platforms to address the COVID-19 pandemic](#)

[HTML](#) [nih.gov](#)

PEGylated liposomes: immunological responses

[HTML](#)] [tandfonline.com](#)Full View

Difference in the lipid nanoparticle technology employed in three approved siRNA (Patisiran) and mRNA (COVID-19 vaccine) drugs

[[HTML](#)] [nih.gov](#)

Challenges of Storage and Stability of mRNA-Based COVID-19 Vaccines

PDF] [mdpi.com](#)

[PDF] Excipients as potential agents of anaphylaxis in vaccines: analyzing the formulations of the current authorized COVID-19 vaccines

[PDF] [jiaci.org](#)

[HTML] COVID-19 mRNA vaccine allergy

[HTML] [nih.gov](#)

[HTML] The role and impact of polyethylene glycol on anaphylactic reactions to COVID-19 nano-vaccines

HTML] [nature.com](#)

[HTML] COVID-19 vaccine anaphylaxis: PEG or not?

HTML] [nih.gov](#)

Pfizer's vaccine raises allergy concerns

PDF] [archive.org](#)

Potential mechanisms of anaphylaxis to COVID-19 mRNA vaccines

[HTML] [nih.gov](#)

[HTML] The role and impact of polyethylene glycol on anaphylactic reactions to COVID-19 nano-vaccines

HTML] [nature.com](#)

[HTML] Polyethylene glycol (PEG) is a cause of anaphylaxis to the Pfizer/BioNTech mRNA COVID-19 vaccine

[HTML] [nih.gov](#)

[Safety evaluation of the second dose of messenger RNA COVID-19 vaccines in patients with immediate reactions to the first dose](#)

[PDF](#) | [jamanetwork.com](#)

[\[HTML\] Practical recommendations for the allergological risk assessment of the COVID-19 vaccination—a harmonized statement of allergy centers in Germany](#)

[\[HTML\]](#) | [nih.gov](#)

[Adverse reactions to COVID-19 vaccines: A practical approach](#)

[HTML](#) | [nih.gov](#)

[\[HTML\] Anaphylactic reactions to mRNA COVID-19 vaccines: A call for further study](#)

[HTML](#) | [nih.gov](#)

Because of these side effects, some specialists are demanding that vaccines containing nanoparticles should be discontinued immediately.

[Vaccination hesitancy and the “myth” on mRNA-based vaccines in Italy in the COVID-19 era: Does urgency meet major safety criteria?](#)

[\[HTML\]](#) | [nih.gov](#)

[\[HTML\] SARS-CoV-2 mass vaccination: Urgent questions on vaccine safety that demand answers from international health agencies, regulatory authorities ...](#)

[HTML](#) | [beaufortcountynow.com](#)

<https://www.immunity.org.uk/wp-content/uploads/2021/11/Graphene-in-Covid-19-vaccines-new.pdf>

As a fast-growing number of studies show, vaccination with vector vaccines and mRNA vaccines cause various disfunctions that go beyond short-term allergic reactions.

[\[PDF\] Surveillance for adverse events after COVID-19 mRNA vaccination](#)

[\[PDF\]](#) | [jamanetwork.com](#)

[Qualitative Assessment of Early Adverse Effects of Pfizer–BioNTech and Sinopharm COVID-19 Vaccines by Telephone Interviews](#)

[PDF] [mdpi.com](#)

[Non-life-threatening adverse effects with COVID-19 mRNA-1273 vaccine: A randomized, cross-sectional study on healthcare workers with detailed self-reported ...](#)

[PDF] [wiley.com](#)

[\[HTML\] Receipt of mRNA Vaccine against Covid-19 and Myocarditis](#)

HTML] [nejm.org](#)

[A case series of cutaneous COVID-19 vaccine reactions at Loma Linda University Department of Dermatology](#)

HTML] [jaadcasereports.org](#)

[\[HTML\] Thrombocytopenia following Pfizer and Moderna SARS-CoV-2 vaccination](#)

HTML] [nih.gov](#)

[Differences in venous immunothrombosis in severe COVID-19 pneumonia and](#)

[HTML] [nih.gov](#)

[Adverse rare events to vaccines for COVID-19: From hypersensitivity reactions to thrombosis and thrombocytopenia](#)

[HTML] [nih.gov](#)

[\[HTML\] Myocarditis and pericarditis after vaccination for COVID-19](#)

[HTML] [jamanetwork.com](#)

[\[PDF\] MD Why are Vaccination induced Rheumatologic Disorders so Diverse](#)

[PDF] [scivisionpub.com](#)

[Delayed localized hypersensitivity reactions to COVID-19 mRNA vaccines: a 6-month retrospective study](#)

[HTML] [nih.gov](#)

[Cerebral venous thrombosis after vaccination against COVID-19 in the UK: a](#)

[\[HTML\] nih.gov](#)

[\[HTML\] Immune-mediated disease flares or new-onset disease in 27 subjects following mRNA/DNA SARS-CoV-2 vaccination](#)

[\[HTML\] mdpi.com](#)

[Auto-immune hepatitis following COVID vaccination](#)

[\[PDF\] icpcovid.com](#)

[Minimal change disease following the Pfizer-BioNTech COVID-19 Vaccine](#)

[HTML\] nih.gov](#)

[\[HTML\] Purpuric Rash and Thrombocytopenia After the mRNA-1273 \(Moderna\) COVID-19 Vaccine](#)

[HTML\] nih.gov](#)

[De Novo and Relapsing Glomerular Diseases After COVID-19 Vaccination: What Do We Know So Far?](#)

[HTML\] nih.gov](#)

[\[HTML\] COVID-19 vaccine-induced myocarditis: Case report with literature review](#)

[\[HTML\] nih.gov](#)

[\[HTML\] Risk of thrombocytopenia and thromboembolism after covid-19 vaccination and SARS-CoV-2 positive testing: self-controlled case series study](#)

[\[HTML\] bmj.com](#)

[Prothrombotic immune thrombocytopenia after COVID-19 vaccination](#)

[HTML\] nih.gov](#)

[Differences in venous immunothrombosis in severe COVID-19 pneumonia and](#)

[\[HTML\] nih.gov](#)

[\[HTML\] COVID-19 vaccine induced rhabdomyolysis: Case report with literature review](#)

[\[HTML\] nih.gov](#)

Myocarditis Following COVID-19 Vaccination

[HTML] [rsna.org](#)

[HTML] Thrombocytopenia following Pfizer and Moderna SARS-CoV-2 vaccination

[HTML] [nih.gov](#)

Minimal change disease following the Pfizer-BioNTech COVID-19 Vaccine

[HTML] [nih.gov](#)

[HTML] COVID-19 vaccine-induced myocarditis: Case report with literature review

[HTML] [nih.gov](#)

COVID-19 vaccines induce severe hemolysis in paroxysmal nocturnal hemoglobinuria

[HTML] [europepmc.org](#)

[PDF] Delayed *Localized* Hypersensitivity Reactions to the Moderna COVID-19 Vaccine: A Case Series

[PDF] [jamanetwork.com](#)

[HTML] Immune-mediated disease flares or new-onset disease in 27 subjects following mRNA/DNA SARS-CoV-2 vaccination

[HTML] [mdpi.com](#)

Autoimmune hepatitis following COVID-19 Vaccination: true causality or mere association?

[HTML] [nih.gov](#)

Auto-immune hepatitis following COVID vaccination

[PDF] [icpcovid.com](#)

Vaccine-Associated Thrombocytopenia and Thrombosis: Venous Endotheliopathy Leading to Venous Combined Micro-Macrothrombosis

[PDF] [mdpi.com](#)

SARS-CoV-2 mRNA Vaccination-Associated Myocarditis in Children Ages 12-17: A Stratified National Database Analysis

[PDF](#) | [medrxiv.org](#)

Cutaneous adverse effects of the available COVID-19 vaccines

[\[HTML\]](#) | [nih.gov](#)

Reported orofacial adverse effects of COVID-19 vaccines: the knowns and the unknowns

[\[HTML\]](#) | [nih.gov](#)

Acute autoimmune-like hepatitis with atypical anti-mitochondrial antibody after mRNA COVID-19 vaccination: A novel clinical entity?

[\[HTML\]](#) | [nih.gov](#)

Association of Myocarditis With BNT162b2 Messenger RNA COVID-19 Vaccine in a Case Series of Children

[\[HTML\]](#) | [jamanetwork.com](#)

Myocarditis Following COVID-19 Vaccination

[\[HTML\]](#) | [rsna.org](#)

[HTML] Mechanisms of immunothrombosis in vaccine-induced thrombotic thrombocytopenia (VITT) compared to natural SARS-CoV-2 infection

[\[HTML\]](#) | [nih.gov](#)

Professor Sucharit Bhakdi, together with the pathologist, Professor Arne Burckhardt, made such disorders visible in the tissues of people who died within a short time after being vaccinated with mRNA vaccines.

<https://rumble.com/vr4tei-dr.-bhakdi-explains-basic-immunology.html?mref=uowm5&mc=c0pm5>

Children who are just building up their immune reactions have been carriers of SARS-Cov-2 viruses since the beginning of the pandemic show very seldom a severe course of the disease,

which only occurs in them if they have chronic diseases and must take immunosuppressive drugs.

They can infect classmates, parents and grandparents who are less able to defend the virus, but themselves are not preading the virus en masse. Thanks to air purification devices in classrooms, the spread of the virus in schools can be reduced, but tests are still needed to identify infected children and prevent chains of infection.

By vaccinating all the children and adolescents including the frequent administration of boosters, as is now practiced in Israel, herd immunity against SARS-Cov-2 should be achieved. In this context it is discussed whether a vaccination should only take place with the consent of the parents, or whether it can be carried out compulsorily. Although the adverse effects of mRNA and virus-vector vaccines in children could be similar to those occurring in adults, according to short-term studies by their manufacturers, vaccines for children in lower doses have been approved by the USA and European countries.

[Reflection on lower rates of COVID-19 in children: Does childhood immunizations offer unexpected protection?](#)

[\[HTML\] nih.gov](#)

[HTML\] Pathophysiology of COVID-19: why children fare better than adults?](#)

[\[HTML\] nih.gov](#)

[Is there a role for childhood vaccination against COVID-19?](#)

[\[PDF\] pedallso.gr](#)

[\[HTML\] Global ethical considerations regarding mandatory vaccination in children](#)

[\[HTML\] sciencedirect.com](#)

[Should we be vaccinating children against COVID-19 in high-income countries?](#)

[PDF\] tandfonline.com](#)

Simulated identification of silent COVID-19 infections among children and estimated future infection rates with vaccination

[\[HTML\] jamanetwork.com](#)

[HTML] Identifying silent COVID-19 infections among children is critical for controlling the pandemic

[\[HTML\] nih.gov](#)

Covid vaccine could be rolled out to children by autumn

[\[PDF\] bmj.com](#)

Healthier schools during the COVID-19 pandemic: ventilation, testing and vaccination

[\[HTML\] sagepub.com](#)

Anti-SARS-CoV-2 vaccination strategy for pregnant women in Japan

[\[PDF\] yuntsq.com](#)

COVID-19 in children and young people

[\[HTML\] nih.gov](#)

Association between race and COVID-19 outcomes among 2.6 million children in England

[\[PDF\] jamanetwork.com](#)

The fast decreasing effectiveness of mRNA vaccines against the delta variant of SARS-Cov-2 and later variants such as Lambda and Omicron show the limitations of this treatment, which is not a vaccine in the classic sense, but rather a gene therapy and nanomedical treatment to stop the effects of this viral infection. The fact that adaptations to new variants of this constantly mutating RNA virus are not possible so quickly with this technology, as it was announced in the beginnings and that so-called booster vaccinations without new formulation are required at ever shorter intervals to induce neutralizing antibodies, makes it clear that the choice of this supposedly

alternative-less vaccine technology, by the US, Germany and many other countries is a great risk because vaccines based on different technologies are now missing. Companies, offices, schools and other institutions must now use pool tests to continuously determine which employees or visitors are currently going through breakthrough infections, which make them contagious again for work colleagues, relatives and children, so that they have to go into quarantine.

In addition to the unvaccinated, a growing number of patients with breakthrough infections are now filling the hospitals in which intensive care beds have been dismantled with reference to the vaccinations available for everyone. Neither the factual compulsory vaccination with mRNA-vaccines or vector-vaccines, which makes life increasingly difficult for citizens who do not want to take these vaccines, nor appeals against the anti-social behavior of vaccine refusers or optimistic statements about the effectiveness of the boosters against the new variants of SARS-Cov-2 change anything about this. With the almost total exclusion of the "vaccination refusers" from social life, fundamental rights were violated and democracy was damaged. Attentive contemporaries did not miss how the supporters of a certain vaccine technology, in which state institutions have participated, repeatedly plead for an apparently alternative-less administration of their vaccines and want to tighten accompanying measures.

We can be curious what the representatives of the mRNA vaccine lobby now have to say to us in view of the Omikron variant and what their political representatives say, who have not made it in almost two years of the pandemic, to take short-term effective measures to limit particulate matter and nitrogen oxide emissions in cities, to make preventive therapies available to members of so-called risk groups or to install sufficient air purification devices in publicly accessible indoor spaces. It remains to be seen, when they will make

vaccines of other technologies, such as Novavax, available. These could quickly stop the compulsory vaccination of the entire population with mRNA vaccines and vector vaccines. Even vaccine with a lasting effect and low adverse effects could not resolve the Covid-19 crises, as damage to the epithelial tissues of the lungs, the cardio-vascular system, the brain and inner organs will persist and new mutants will turn up as long as air pollution cannot be reduced drastically world-wide.

Felix de Fries

Attachment: Recent articles on the effect of pro-biotics and Acetyl Cysteine in the prevention and treatment of Covid-19

[Probiotics and COVID-19: is there any link?](#)

[\[PDF\] wiley.com](#)

[\[HTML\] Probiotics and Coronavirus disease 2019: think about the link](#)

[\[HTML\] nih.gov](#)

[\[HTML\] Role of probiotics to combat viral infections with emphasis on COVID-19](#)

[\[HTML\] springer.com](#)

[Probiotics, prebiotics and dietary approaches during COVID-19 pandemic](#)

[\[HTML\] nih.gov](#)

[\[HTML\] Probiotics as a weapon in the fight against COVID-19](#)

[HTML\] nih.gov](#)

[Targeting the gut–lung microbiota axis by means of a high-fibre diet and probiotics may have anti-inflammatory effects in COVID-19 infection](#)

[\[HTML\] sagepub.comFull View](#)

[Probiotics use is associated with improved clinical outcomes among hospitalized patients with COVID-19](#)

[HTML](#)] [sagepub.com](#)Full View

[N-Acetylcysteine and Hydrogen Sulfide in Coronavirus Disease 2019](#)

[PDF] [researchgate.net](#)

[N-acetylcysteine: A potential therapeutic agent in COVID-19 infection](#)

[HTML] [nih.gov](#)

[N-acetyl-cysteine reduces the risk for mechanical ventilation and mortality in patients with COVID-19 pneumonia: a two-center retrospective cohort study](#)

[PDF] [tahomaclinic.com](#)

[HTML\] Efficacy of glutathione therapy in relieving dyspnea associated with COVID-19 pneumonia: A report of 2 cases](#)

[HTML] [sciencedirect.com](#)

[Rationale for the use of N-acetylcysteine in both prevention and adjuvant therapy of COVID-19](#)

[PDF] [wiley.com](#)Full View

[PDF\] Therapeutic potential of N-acetyl cysteine \(NAC\) in preventing cytokine storm in COVID-19: review of current evidence](#)

[PDF] [europeanreview.org](#)

[HTML\] N-acetylcysteine to combat COVID-19: an evidence review](#)

[HTML](#)] [nih.gov](#)

[Therapeutic blockade of inflammation in severe COVID-19 infection with intravenous N-acetylcysteine](#)

[HTML] [nih.gov](#)

[Gut-lung axis and dysbiosis in COVID-19](#)

[PDF] [tubitak.gov.tr](#)

[PDF\] Microbiota modulation of the gut-lung axis in COVID-19](#)

[\[PDF\] frontiersin.org](#)

[Every breath you take: Impacts of environmental dust exposure on intestinal barrier function—from the gut-lung axis to COVID-19](#)

[PDF\] physiology.org](#)

[\[HTML\] Gastrointestinal Microenvironment and the Gut-Lung Axis in the Immune Responses of Severe COVID-19](#)

[HTML\] frontiersin.org](#)

[\[HTML\] Gut-Lung Axis in COVID-19](#)

[\[HTML\] hindawi.com](#)

[Seven secrets of COVID-19: fever, ACE2 receptors, gut-lung axis, metabolomics, microbiomics, probiotics, diet](#)

[PDF\] jpnim.com](#)

[\[HTML\] Oral probiotics in coronavirus disease 2019: Connecting the gut–lung axis to viral pathogenesis, inflammation, secondary infection and clinical trials](#)

[\[HTML\] nih.gov](#)

[Cross-talk between immune system and microbiota in COVID-19](#)

[\[HTML\] nih.gov](#)