

## The new “New York Mutation” – the new form of the Devil

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In New York we see a first case of a more contagious virus strain than someone infected, with no known travel history, tested positive for the new version of COVID-19. While the new strain is more contagious, Dr. Anthony Pauci, director of the U.S. The American National Institute of Allergy and Infectious Diseases, said last week that it appears to be not resistant to the vaccines developed. Pauci said, however, that public health officials are closely monitoring the mutation, called B.1.1.7.

- DNA viruses have DNA in their genome whereas RNA viruses have an RNA genome. Unlike RNA viruses, DNA viruses transmit their DNA to the host cell nucleus and not to the host cell cytoplasm. But the RNA virus is first absorbed into the cell surface. The host, fuses with the endosome membrane and releases the nucleocapsid into the cytoplasm, thus, these

are the main differences between the DNA and RNA viruses.

- Furthermore, the DNA polymerase enzyme is used in the process of DNA replication. Because DNA polymerase has refining activity, the level of mutation is lower in DNA viruses. On the other hand, RNA polymerase is used in the RNA replication process of RNA viruses. The level of mutation is high in RNA viruses because the polymerase of the RNA is unstable and can cause errors during replication. Therefore, there is a significant difference between DNA and RNA viruses [1].

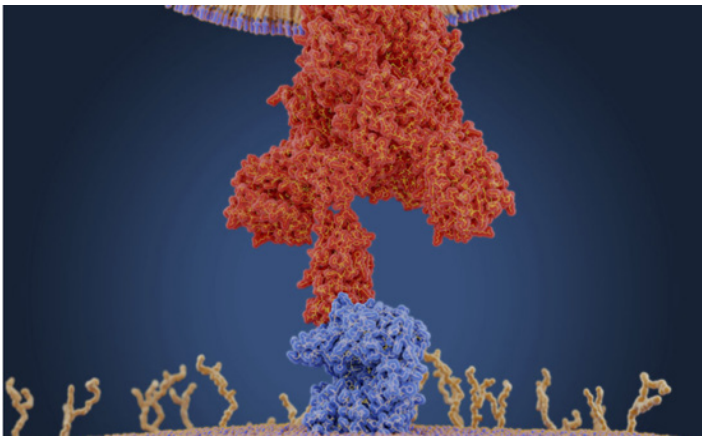
In Israel, 3 carriers of this new virus that came from New York have already been identified. I do not know how this variant was infected. “For your salvation, I have hoped for gods aid.” Free us from the “godfather” and gang.



Vaccination in Israel March 4 2021 (credit ref [2])  
Structural basis of receptor recognition by SARS-CoV-2 [3]

Recently, acute respiratory distress syndrome (SARS) such as SARS-CoV-2 has appeared and spread rapidly in humans causing COVID-19. A key to dealing with this epidemic is understanding the receptor recognition mechanism of the virus, which regulates its degree of infection, pathogenesis and host range. SARS-CoV-2 and SARS-CoV detect the same receptor - an enzyme that converts angiotensin 2 (ACE2) - in humans. Scientists determined the crystal structure of the SARS-CoV-2 spike binding receptor

(RBD) domain (designed to facilitate crystallization) complexed with ACE2. Compared to SARS-CoV RBD, the ACE2-binding ridge in SARS-CoV-2 RBD has a more compact conformation; Furthermore, a number of residual changes in SARS-CoV-2 RBD stabilize two hotspots that require viruses in the RBD interface - ACE2. These structural properties of SARS-CoV-2 RBD increase the affinity binding to ACE2. In addition, we show that RaTG13, a crown-corona virus closely associated with SARS-CoV-2, also uses human ACE2 as its receptor. The differences between SARS-CoV-2, SARS-CoV and RaTG13 in ACE2 detection shed light on the potential for animal-to-human transmission of SARS-CoV-2.



A coronavirus uses a protein on its membrane—shown here in red in a molecular model—to bind to a receptor—shown in blue—on a human cell to enter the cell. Once inside, the virus uses the cells' machinery to make more copies of itself. (Juan Gaertner / Science Source). (Credit ref [4])

The U.S. Food and Drug Administration (FDA) recently approved approval for emergency use of the COVID-19 vaccine developed by Pfizer and German pharmaceutical company BioNTech.

The vaccine has made history not only because it reported a 95 percent efficacy rate in preventing COVID-19 in clinical trials but because it is the first vaccine the FDA has ever approved for human use based on RNA technology. “The development of RNA vaccines is a great blessing for the future of infectious disease treatment,” said Lynn McQuatt, a senior professor of Jay Lowell Orbison’s honorary service in biochemistry and biophysics, oncology and pediatrics in Rochester and director of the Rochester Center for Biology.

COVID-19, short for “Coronavirus 2019”, was caused by the new coronavirus SARS-CoV-2. Like many other viruses, SARS-CoV-2 is an RNA virus. This says, unlike humans and other mammals, the genetic material of SARS-CoV-2 is encoded by ribonucleic acid (RNA). Viral RNA is insidious: its properties cause the mechanism of protein synthesis in humans to err because of the RNA produced by our DNA.

For this reason, some of the leading COVID-19 vaccines and therapies are based on RNA technology.

Research scientists at the laboratories examine the RNA of viruses to understand better how RNAs work and how they are involved in the disease. This RNA study provides an essential basis for developing vaccines and drugs and other drugs to disrupt the virus and stop infections. The Coronavirus Variants from New York and California [5]. A new COVID-19 challenge: Mutations rise along with cases [6, 7].

The race against the virus causes COVID-19 has taken a new turn: mutations are emerging rapidly, and the longer time it takes to vaccinate people, the more likely it is that a version that can evade current tests, treatments and vaccines. Can appear.

The coronary virus is now more diverse genetically, health officials

think that the high rate of new cases may be the main reason. That is since each new infection gives the virus a chance to change as it makes copies of itself, threatening to undo its progress so far in controlling the plague.

### What to know about the versions?

Scientists suspect that these mutations make it more transmitted, meaning it may be better to replicate itself in people’s bodies. They can even cause more serious illnesses, as more deaths have been linked to the CAL.20C version than to the original version.

The New York Times reported that approaching studies from the University of California, San Francisco (UCSF) found that people in households with someone suffering from the CAL.20C variable infection were 35 percent more likely to get it. People had a 26 percent chance of becoming sick if someone in their home had an infection from another version.

The UCSF study has not yet been published in a peer-reviewed journal. Like the CAL.20C version, B.1.526 in New York may have mutations that help it evade some monoclonal antibodies and vaccines. According to recent evidence, most of the cases were discovered in New York City and New Jersey. More about this source textSource text required for additional translation information

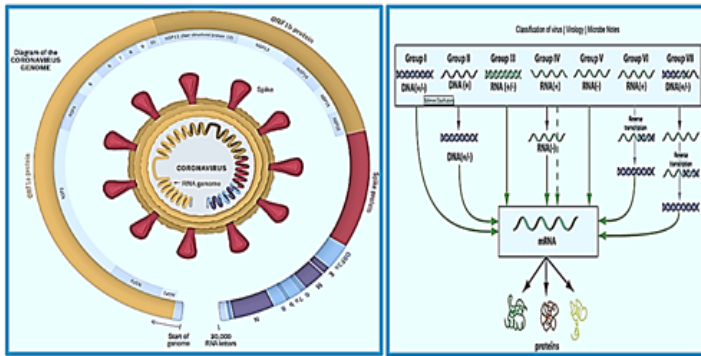
Two new versions of the new corona virus have been identified, one in California and one in New York. Researchers suspect that the arrangements may be more contagious than the previous ones, and there is a chance that the California version may be more deadly. Experts expect that the current vaccines will still provide good protection against the variants. New variations of the coronary virus are emerging. A new version called P.1 is behind the jump in cases in Brazil. There is another one, B.1.1.7, which is spreading across the UK and now also in the US. And the B.1.351 dominates South Africa. Researchers have also recently identified two new versions in the United States - the B.1.427 / B.1.429Trust Source in California (or CAL.20C) version and another, called B.1.526, in New York. The versions contain different mutations but all of them are considered more transmissible and may increase the severity of the disease. Recent research on the new version discovered in California suggests that it may be more transmitted, better at replicating itself and less familiar with antibodies. Overall, the study is in the early stages, and more data is needed to understand how the California and New York versions differ from the original coronavirus.

### Coronavirus Variants and Mutations

When an infected cell builds new viruses, it occasionally calls copy errors mutations. Scientists can track mutations as they pass through a genealogy, which is a branch of the viral family tree. A group of coronaviruses that share the same distinct group of differentiated mutations is called a variant. If enough mutations accumulate in the lineage, the viruses may develop clear differences in their mode of action. These lines are described by name Varieties.

Covid-19 is caused by the coronavirus SARS-CoV-2. During the plague, several versions of SARS-CoV-2 were created. Some raise concerns that they may pull out the epidemic or make

the vaccines less effective.



Schematic presentation of viruses

The New York Times in a Concerned Study: 7 New Mutations Discovered [8].

Emergency authorities all over the world have been fighting for more than a year against the Corona virus, which has been back to normal. Recently, the vaccines of the various companies that successfully defeat the virus have begun to emerge. But at the same time, as with viruses, mutations began to appear - different and strange variants.

According to a new study published last night (Sunday) in the New York Times, the United States is examining the appearance of no less than 7 new mutations. Mutations that are not completely known whether they are more contagious, or just enter the cell differently.

It should be noted that samples of these mutations have been found in several countries in the United States, but in total, according to the study, there are 7 new mutations of the corona virus. It is more resistant to vaccines, but no More contagious: what is known about The new mutation from New York The fear in Israel of an outbreak of mutations is growing, and so far, three cases of the new strain of the corona from what is known so far, this mutation seems to be slightly more Resistance to vaccines - but not more contagious or violent .Netanyahu claimed that he intended to Bring an additional 36 million vaccines to the country to deal with the mutations, but according to Experts have no evidence that another vaccine will help with certainty: "There is intimidation here The public."

### New York State Identifies Case of More Infectious Coronavirus Strain.

Cuomo made the announcement in a brief press conference this afternoon just as England announced the new National lock because of the new version. His late morning briefing regularly scheduled no Treat the version but focused mainly on the launch of vaccines and the infection rate in New York, Which has risen - possibly, he says, because of the new version - but is still low below most The rest of the country. The governor said New York has conducted 5,000 tests specifically for the new tension and that he believes if Other countries have checked how much, they would probably find it as well. He warned again and again, even Before the first case was revealed in the US, the new strain was definitely migrating to the US Last spring, New York became the focus of contagion

of the coronary virus that entered the country from Europe as a federal official focused on China. Cuomo said New York's billing rate is 8.4%, including so-called micro-clusters, which are the most Pronounced in the Finger Lakes region. He noted that the Bronx has captured, as has Staten Island but in Manhattan there is a relatively low charge of 3.5% because of a higher compliance percentage. The relatively low statistics were good news so far for the production of the city of New York that arose and ran for several months. Cinemas, however, have not reopened in New York even though they have Workers with reduced capacity in the rest of the country.

### New variant COVID findings fuel more worries about vaccine resistance

Scientists in the UK reported yesterday: A small number of B117 versions developed the E484K mutation that was thought to help SARS-CoV-2 partially evade immunity. Today, another group in the UK said their lab experiments suggest the mutation added to the B117 may alleviate the vaccine's effect after dosing. The World Health Organization (WHO), the weekly update on epidemic activity, said it had reported the three suspected caregivers in other countries, with 80 now reporting the B117 version [9].

Viruses are mutating, and taking on new forms. The coronavirus SARS-CoV-2 has many variants that have been identified and characterized. However, several of them, as well as mutants found in the United Kingdom, South Africa and Brazil, are highly transmissible and have sparked the concerns that currently applied vaccines may lose effectiveness protecting from their damages. It is the same protective measures that have warded off the virus throughout the pandemic — maintaining social distance, wearing masks and washing our hands — are even more critical in the face of more transmissible variants [10, 11].

A stream of new studies may indicate that "recombination" allows the microbe to "change shape" in dangerous ways. But in the long run, this biological machine may offer a silver lining, helping researchers find drugs to stop the virus from following it. "There's no doubt that recombination is happening," said Nels Aid, an evolutionary geneticist at the University of Utah. "And in fact, it's probably a little unappreciated and could be in the game even with the advent of some of the new versions of the concern." The mutations of the coronary virus that most people have heard of, such as those in version B.1.351 first discovered in South Africa, change mares in one "signal" of the long genetic sequence of the virus, or RNA. Because the virus has a powerful system for proofreading its RNA code, these small mutations are relatively rare. In contrast, recombination is abundant in viruses. Researchers at Vanderbilt University Medical Center, led by virologist Mark Dennison, recently examined how things are. The team discovered that all three viruses showed "extensive" recombination when replicated separately Laboratory.

### Eight Spike Mutations

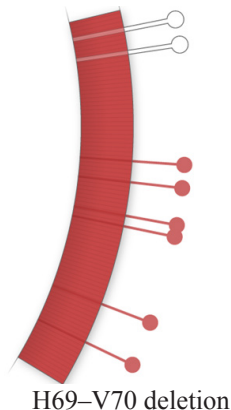
Researchers are most worried about the eight B.1.1.7 virus mutants that change the form of the virus spike, this protein which is the vehicle to attach to living cells and slip to it's inside (cytoplasm).

Each spike is a group of three intertwined proteins:



```
MFVFLVLLPLVSSQCENLITRTQLFPAYTNSFTREGVYYPDKVFERSVLHSTQDLFLPFFSNVTW  
FHAIHVSGTNGTKRFDNVLPFNDGVYFASTEKSNIRGWIFGTILDSTKTSLLIVNNAITNVVIEK  
VCEFQFCNDPFLGVYYHKNNKSWMESEFRVYSSANNOCTFEYVSQFFLMDLE GKQGNFKNLRE  
FVFKNIDGYEKIYSKHTPINLVRDLPPQGSALFLVDLPIGINITRFQTLALHRSVLTSGDSSSG  
WTAGAAAYVVGYLQPRTELLKYNENGTITDAVDCALDPLSEKCTLKSFTVEKGIYQTSNFRV  
QPTESIVRFPNLTINLCPFGIEVFNATRFASVYAWNRKRISNDVADYSLVLYNSASESTTKCYGVSP  
TKLNDLCEFTNAYADSENVIRGIDAVRQIAPGQTEKIAIDYNYKLPDDFEGDVAWNSNLDKRVG  
GKANNYLYRIERKKNLKPFRIDISTTELYQAQSTPONGVIEGNEEYEPLEQSYGIEQPTNGVCGYQPYR  
VVALSITELLHAFAIVCGPKKSTNLVKNKCVNPNFNGITGTTIVLTESNKKILPQQDQGRIDIAIT  
TIDAVRIDRQILKILDITPDSFGGVSMTPTGINTSNDQVAVLYQGVNCTEMPVAHHADQLTPTWRVY  
STGSNVFQTRAGCLIGAEHVNNSYECDIPIGAGICASYQTQNSPRRARSVAEQSHAYTMSLGA  
ENSVAYSNNLSIAIPTNFTISVTTEILPVSMIKTSVDCTMYICGDSIECSNLLQYGSFCTQLNRA  
LTGLAVEQDKNTQEVFAQVKQYKTPPIKDFGGFNFSQILPDPSEKPSKRSFIEDLLFNKVTLADA  
GFIKQYGDCLGDIAARDLCAQKFNGLTVLPFLTDEMIAQYTSALLAGITTSGWTFGAGAAL  
QIPFAMQMAYRFNGIGVTQNVLYENQELIANQFNEAIGKIQDSLSTASALGKQLQDVVNQNAQ  
ALNTLVEQLSSNFGAISVLDILSRDKVEAEVQIDRLITGRLOSLQTYVTQQLIRAAEIRASA  
NLAATEMSECVLGGSKRVDFCGKGYHLMSEFFQSAPHGVVFLHVTYVPAQEKNFITAPAICHD  
GKAHFPREGVVFVSNQTHWVNTQRNFYEPQIITDNTFVSGNCDVVIGIVNNTVYDPLQPELDSF  
KEELDKYFKNHTSPDVDLGDISGINASVVNIQEKIDRLNEVAKNLNESLIDLQELGKYEQYIKW  
PWYTWLGFIAGLIATVMVTMLCCMTSCCSCLKGCCSCGSCCKFDEDDSEPVKGVKLYHT
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Spike proteins in the B.1.1.7 lineage have two deletions and six substitutions in this sequence of amino acids.



## Coronavirus

These mutations alter the spike protein's shape by changing how the amino acids fold together into a complex shape.

### How Did the Variant Evolve? [12]

Several scientists think that B.1.1.7 gained many of its mutations within a single person. People with weakened immune systems can remain infected with replicating coronaviruses for several months, allowing the virus to accumulate many extra mutations. When treating patients with a healing plasma, which contains antibodies against the coronavirus, natural selection may prefer viruses with mutations that allow them to escape the attack. Once the B.1.1.7 dynasty developed its battery of changes, it may have been able to spread faster from person to person. Health officials: UK variant running wild, hitting children at a worrying rate

<https://www.timesofisrael.com/mutated-covid-19-strains-are-stymieing-efforts-to-curb-spread-virus-czar-says/>

“Israeli Virus czar says” strain now behind half of the cases, may cause serious illness 30% more often; public health head: 40% of patients are in kids; Israel must keep airport shut for weeks.



An Israeli student receives a COVID-19 vaccine injection, at a vaccination center in Tel Aviv, on January 23, 2021.

The government's coronavirus czar said Monday that mutated COVID-19 strains brought into the country by returning travelers are hampering efforts to contain the disease outbreak. Nachman Ash told Radio 103FM that over the past couple of days information from the UK, where the so-called British variant was first detected, has indicated that the strain causes serious symptoms at a 30 percent higher rate.

### No side effects seen in dozens of Israeli kids vaccinated due to risk factors.

The Israeli Ministry of Health allows vaccination of young people with specific conditions and a child of a severely injured parent, despite the lack of robust clinical data. No serious side effects [13]. No side effects were observed among dozens of children under the age of 16 who suffer from risk factors specific to COVID-19 and which Israel has vaccinated against the coronary virus.

The Ynet news site reported that children approved by the vaccine's

medical authorities had risk factors including obesity, diabetes, severe lung and heart disease, immunosuppressive disorders, and cancer.

### Israel said set to recommend vaccinating some teens aged 12-15 against COVID-19

Health Ministry reportedly plans to allow vaccinations for youth with risk factors, despite lack of data on side effects [14].



Illustrative: An Israeli receives a COVID-19 vaccine in Jerusalem, February 10, 2021.

On Thursday, the Ministry of Health recommended vaccinating teenagers aged 12-15 against COVID-19 if they suffer from specific risk factors. The announcement came despite the global recommendation against vaccinating people under the age of 16 due to the lack of clinical trials on the same population, Channel 13 reported.

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