

MENGENAL VARIAN B.1.1.529 / OMICRON

Moh Indro Cahyono

SEBARAN INFORMASI MEDIA 29 NOVEMBER 2021

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Muncul Varian Omicron, Menkes: Kemungkinan Besar Lebih Cepat Penularannya

Senin, 29 November 2021 | 08:17 WIB

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Menteri Kesehatan (Menkes) Budi Gunadi Sadikin (kiri) mengikuti rapat kerja (Raker) dengan Komisi IX DPR di Kompleks Parlemen, Senayan, Jakarta, Senin (8/11/2021). Rapat tersebut membahas evaluasi penanganan pandemi COVID-19 dan strategi mitigasi gelombang ketiga melalui ketersediaan obat, alat kesehatan, vaksin, dan tenaga medis, serta keterjangkauan akses testing dan tracing bagi masyarakat. ANTARA FOTO/Galih Pradipta/foc.

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Varian Covid Omicron Bikin Sedunia Ketakutan, Ini Buktinya!

Thea Fathanah Arbar, CNBC Indonesia

NEWS - Senin, 29/11/2021 07:42 WIB

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1. Varian Covid Omicron Bikin Sedunia [>](#)



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Foto: Ilustrasi Virus Covid-19 (Photo created by

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Ancaman Corona Varian Omicron dan Upaya Pencegahan Indonesia

Senin, 29 November 2021 | 06:12 WIB

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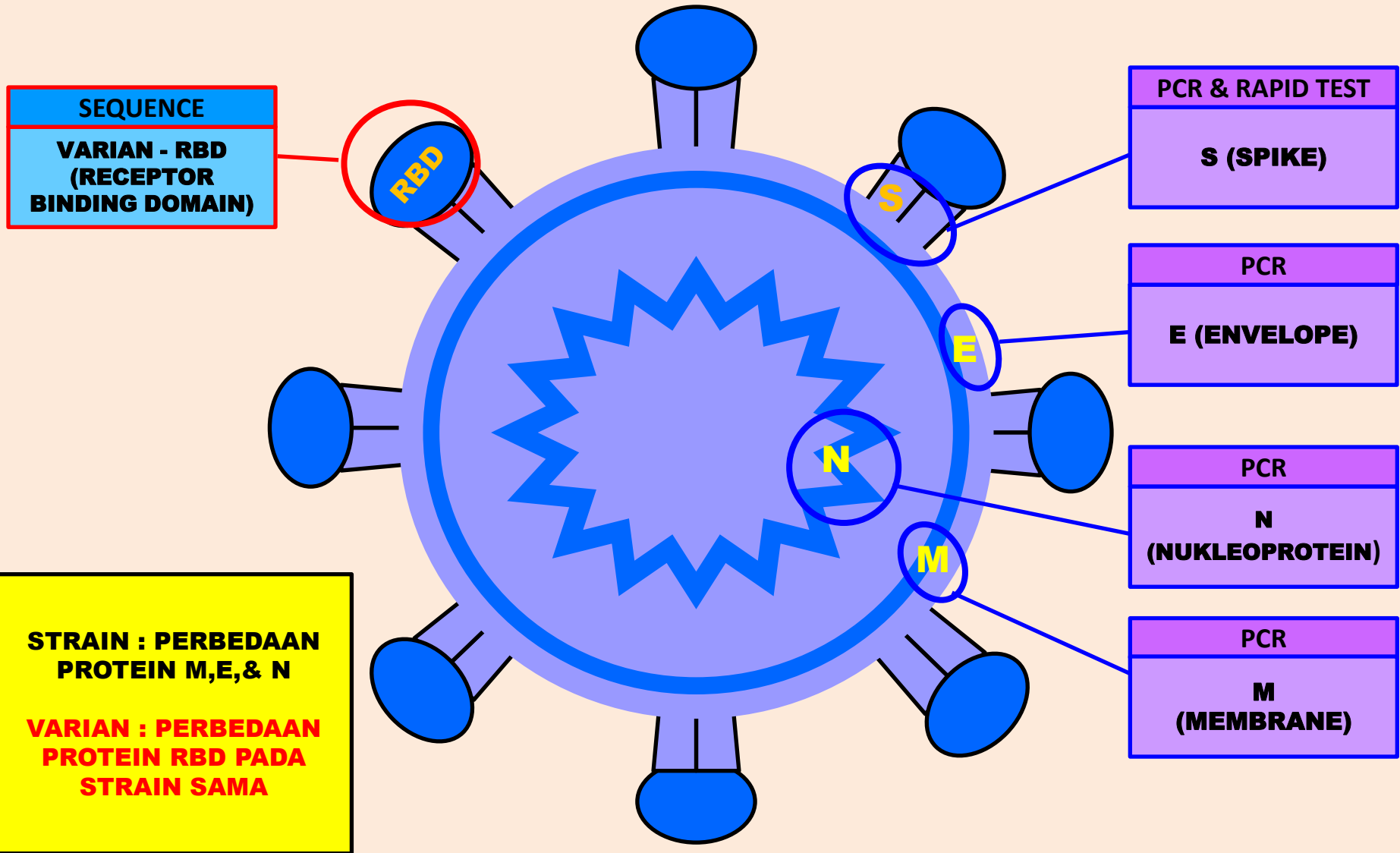
KOMPAS.COM/Shutterstock

Ilustrasi corona virus (Covid-19)

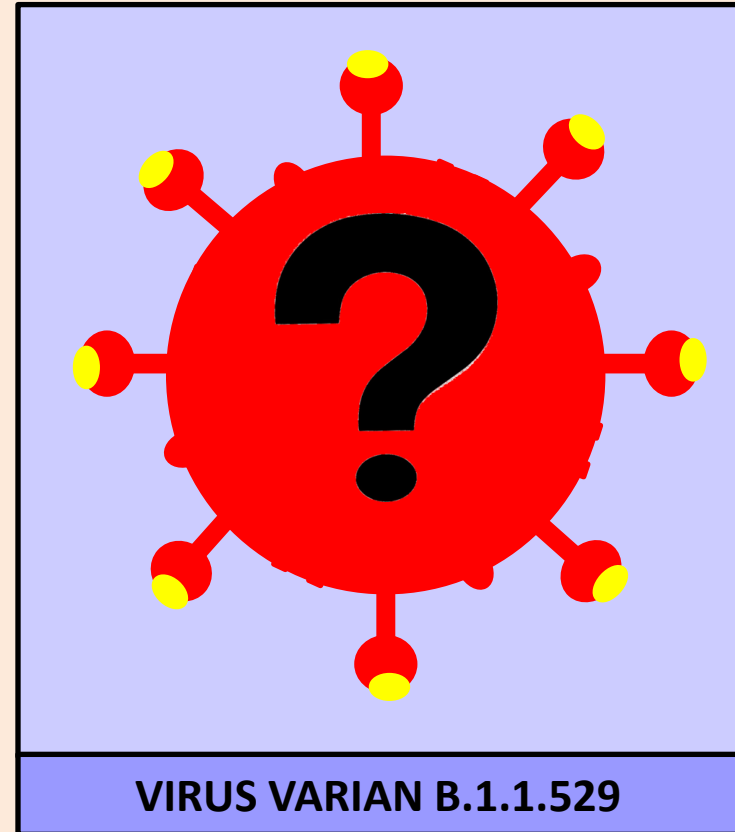
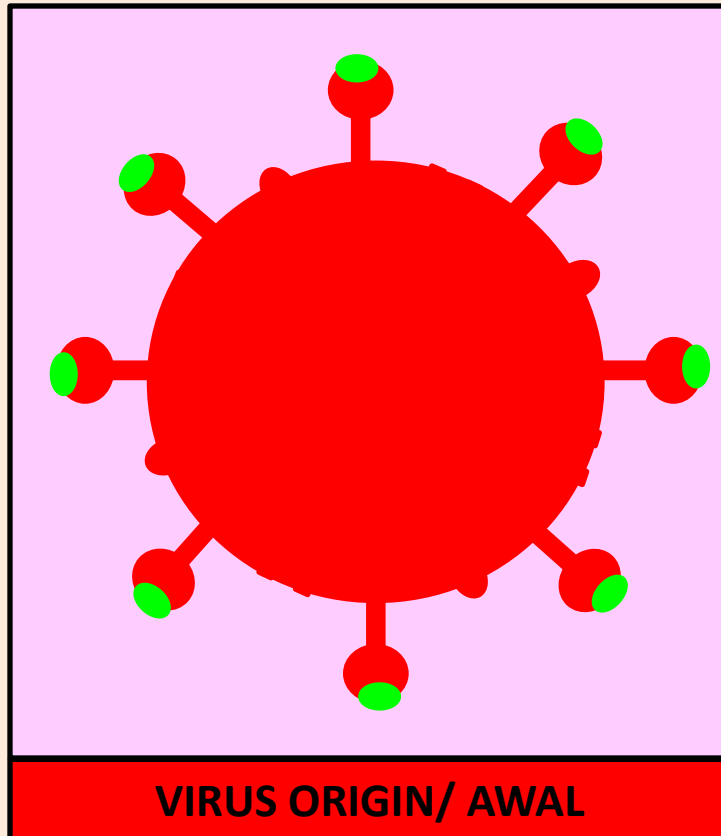
Penulis: **Fitria Chusna Farisa** | Editor: Dani Prabowo

JAKARTA, KOMPAS.com - Pemerintah menyoroti penyebaran varian baru virus corona B.1.1.529 atau varian Omicron.

VARIAN, PROTEIN VIRUS COVID19 & UJI DETEKSI PCR



VARIAN = KUMPULAN MUTASI **PROTEIN S-RBD** BUKAN PERUBAHAN SELURUH VIRUS



- Mutasi virus SARS CoV2 TIDAK MERUBAH BENTUK VIRUS KESELURUHAN, HANYA SEBAGIAN KECIL (protein S).
- Protein S yang mengalami perubahan (ujung spike warna hijau berubah menjadi kuning), sementara virusnya MASIH TETAP SAMA (virus berwarna merah)..
- VARIAN = perubahan ujung Spike saja sementara virusnya MASIH SAMA = sifat virus SAMA tetap CoViD19 (kesembuhan 97%).

VARIAN = KUMPULAN MUTASI **PROTEIN S-RBD** BUKAN PERUBAHAN SELURUH VIRUS

Coronavirus variants

Mutations are natural and to be expected in any virus. Several variants of SARS-CoV-2 have been detected

WHO variants of concern

B.1.1.7 Alpha

First record:
September 2020



Country of first detection:
United Kingdom

B.1.351 Beta

First record:
October 2020



Country of first detection:
South Africa

P.1 Gamma

First record:
December 2020



Country of first detection:
Brazil

B.1.617 Delta

First record:
October 2020



Country of first detection:
India

B.1.1.529 Omicron

First record:
November 2021



Announced in:
South Africa

Main concerns

Transmissibility

Any change on the spike can potentially affect how easily a virus can infect a cell

The **alpha** and **beta** variants appeared to spread more easily and quickly than earlier variants

The **delta** variant has been found to be 43% to 90% more transmissible than previous COVID-19 variants, according to different experts

Omicron

Detection of the variant coincides with a sharp rise in cases in South Africa

Severity of illness

Studies on **alpha** submitted to the UK's NERVTAG* in January suggested there could be a link to increased risk of death

A study published August 27 confirmed that a person infected with **delta** is 50% more likely to be hospitalised than someone with **alpha**

*New and Emerging Respiratory Virus Threats Advisory Group

WHO and other health agencies are closely monitoring any impacts from this variant

Vaccine efficacy

Some studies suggested **beta** and **gamma** may have mutations that prevent antibodies working as well, though more research is needed

Other lab studies have shown that vaccines retain effectiveness against **beta** and **alpha**

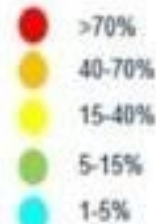
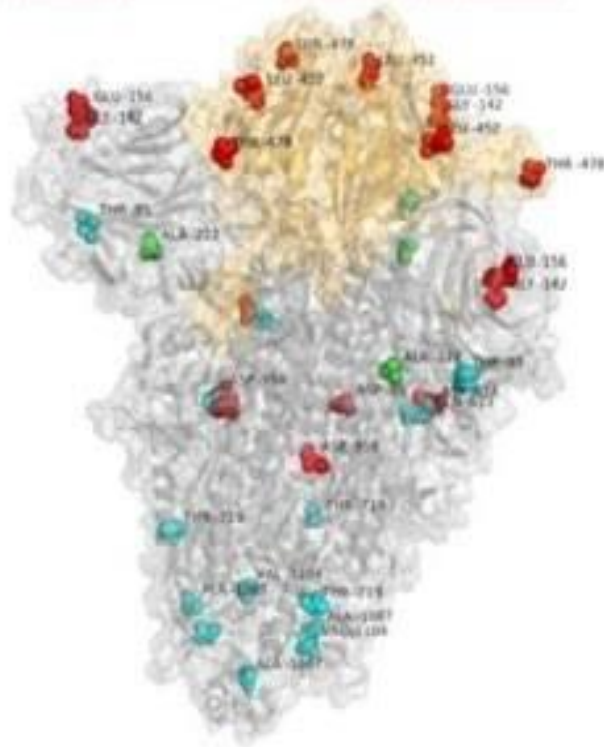
Studies on **delta** suggest that the variant is moderately resistant to vaccination

The variant harbours a high number of mutations in regions of the spike protein that antibodies recognise, potentially dampening their potency

VARIAN = KUMPULAN MUTASI **PROTEIN S-RBD** BUKAN PERUBAHAN SELURUH VIRUS

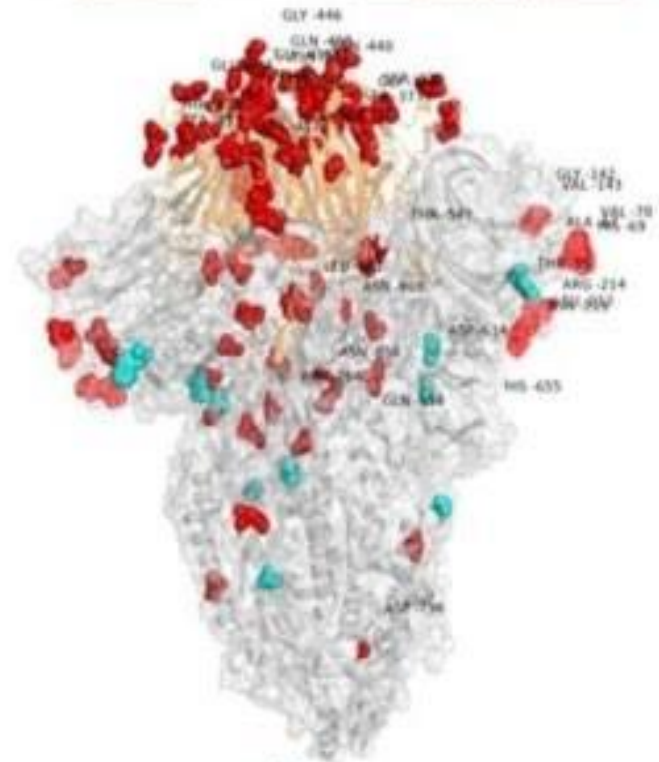
Delta

18 aa mutated residues in the Spike protein
8 residues in >60% of available sequences

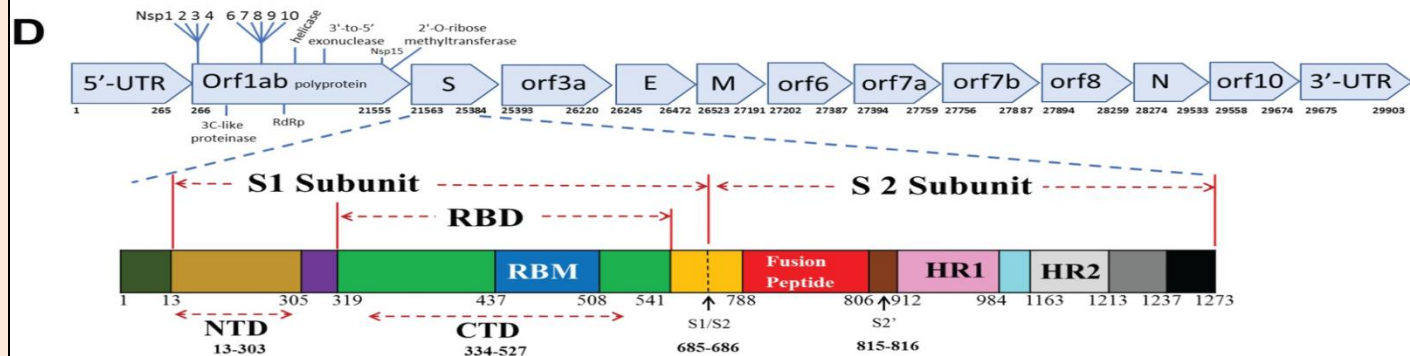
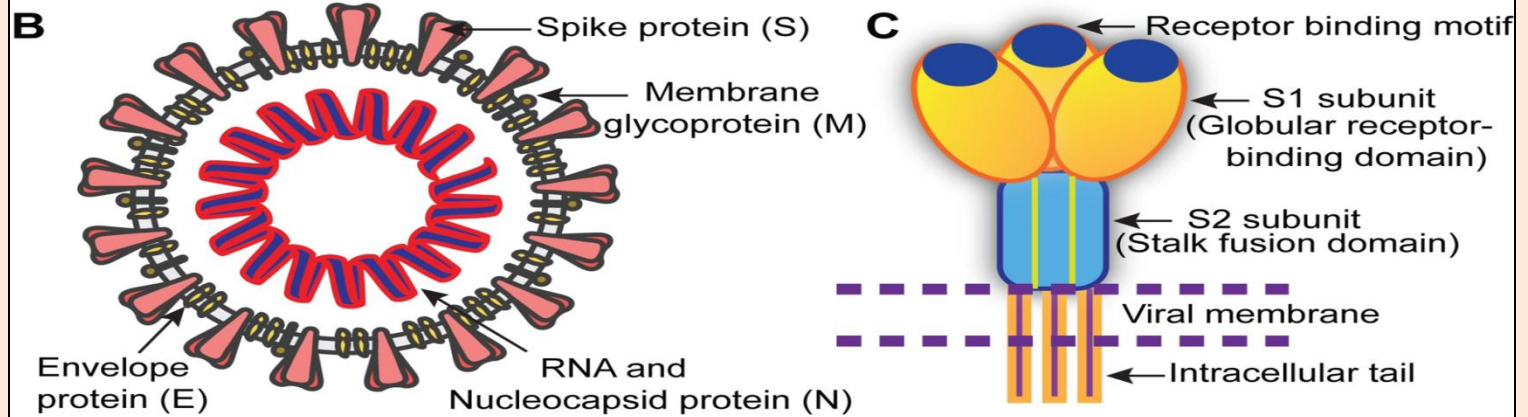
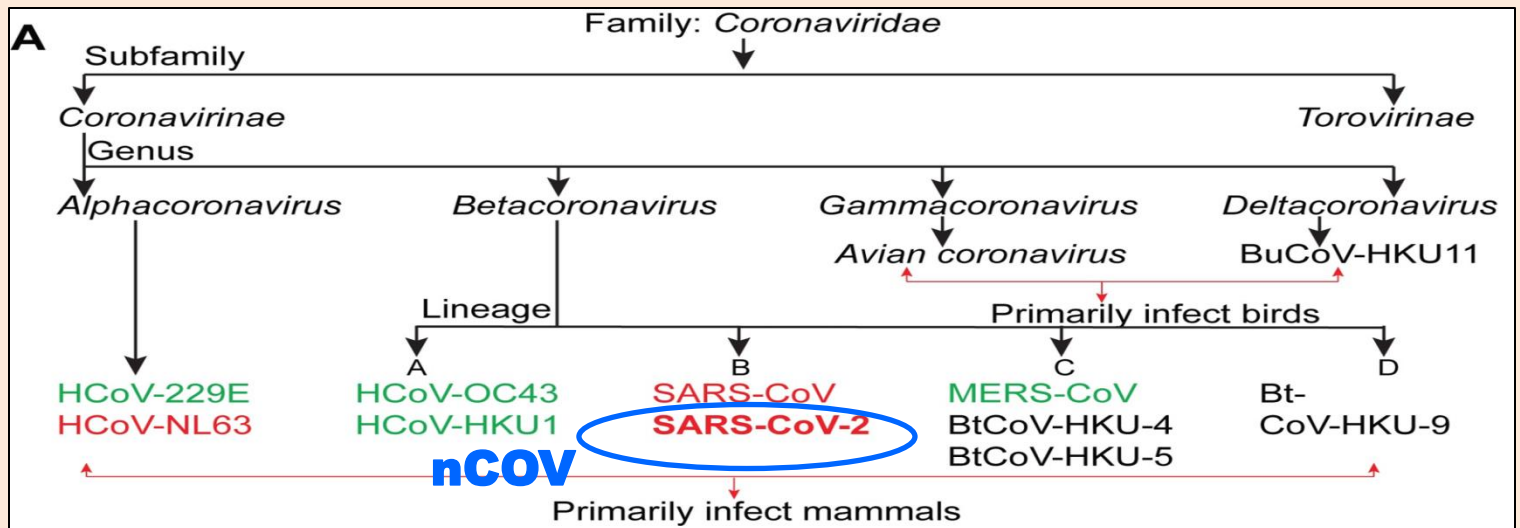


Omicron

43 aa mutated residues in the Spike protein
34 residues in >60% of available sequences

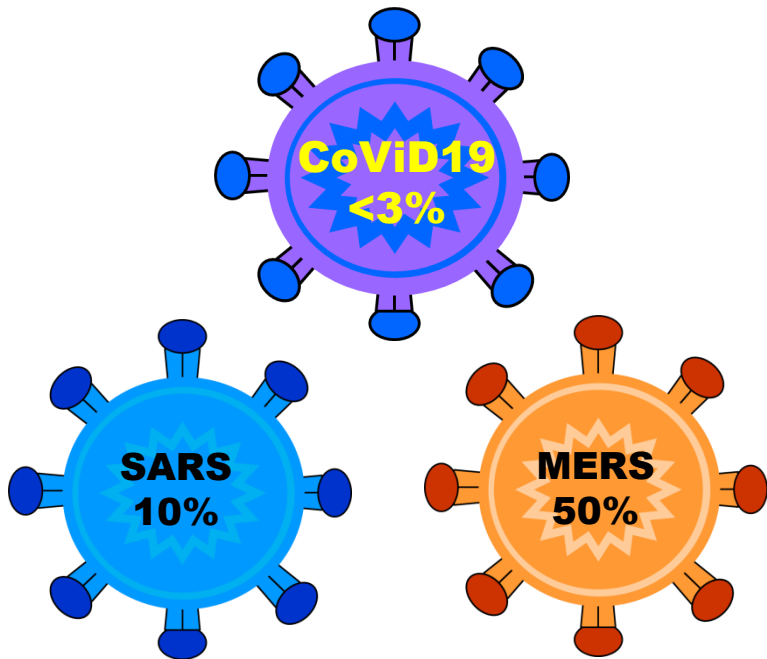


The structure of SARS-CoV-2 spike protein showing the active site in orange and the residues coloured against dif

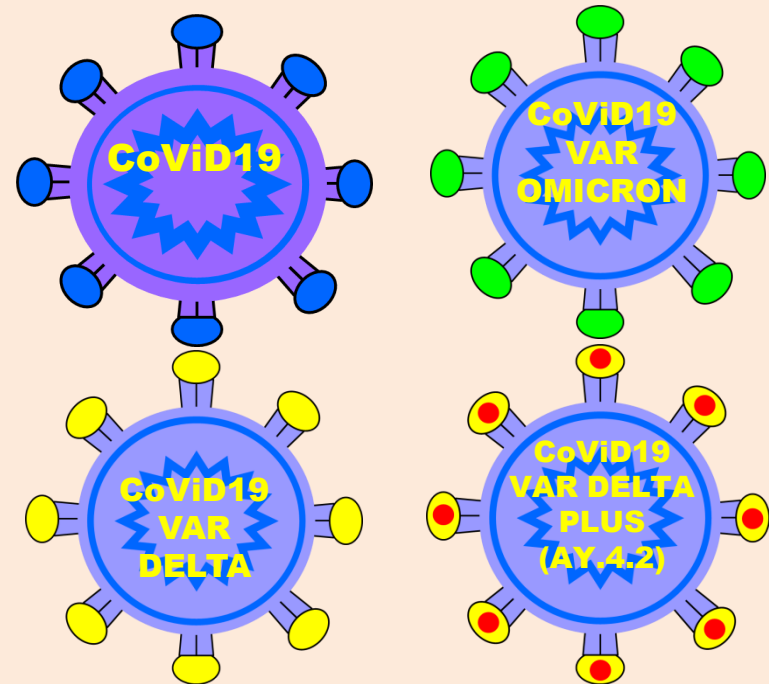


PERBEDAAN STRAIN & VARIAN

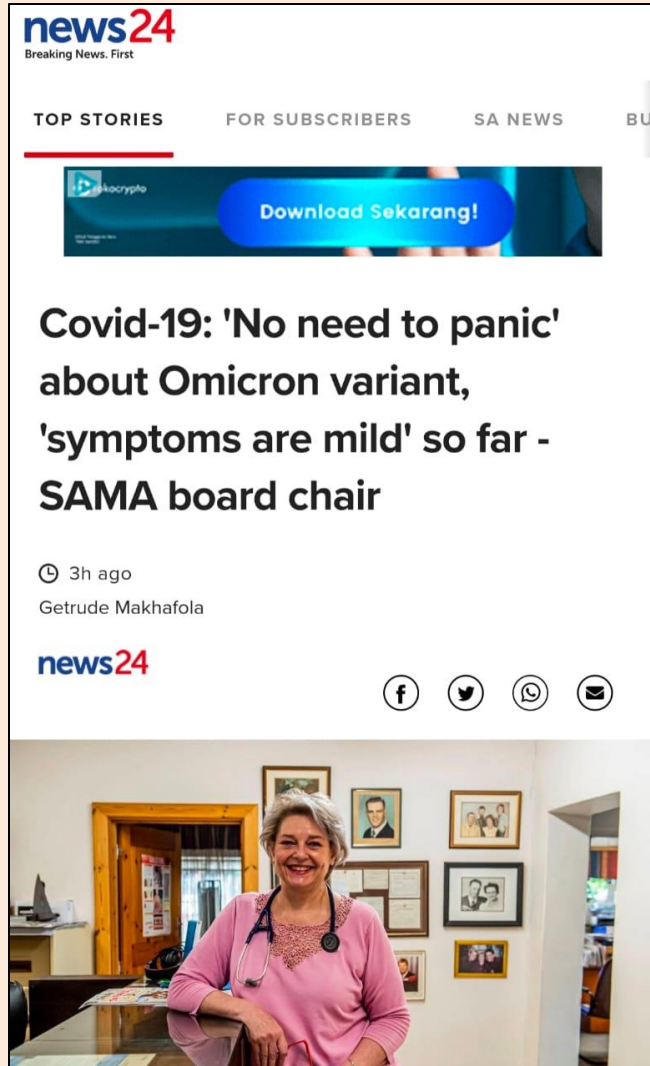
STRAIN : PERBEDAAN PROTEIN M,E & N MENUNJUKAN SIFAT VIRUS YANG BERBEDA. TINGKAT KEMATIAN MERS 50%, SARS 10%, & CoViD19 <3%. SIFAT STRAIN TETAP & TIDAK BERUBAH



VARIAN : PERUBAHAN PROTEIN S PADA STRAIN YANG SAMA – CoViD19 (TANPA PERUBAHAN PROTEIN M,E, & N) SIFAT MASIH SAMA DENGAN 97% KESEMBUHAN



SIFAT CoViD19 DI SOUTH AFRICA MASIH SAMA DENGAN 97% KESEMBUHAN



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Covid-19: 'No need to panic' about Omicron variant, 'symptoms are mild' so far - SAMA board chair

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Dr Angelique Coetzee – who is also board chairperson of the SA Medical Association.

PHOTO: Deon Raath

- **A Tshwane medical doctor says, unlike previous variants, the Covid-19 patients she treats do not have serious symptoms.**
- **She urged people not to panic, as the patients have not needed hospital admission.**
- **An expert in infectious diseases says, although the mild symptoms are good news, doctors should be cautious because not much is known about the new variant.**

SEBARAN INFORMASI MEDIA 28 NOVEMBER 2021 OMICRON 500% LEBIH MENULAR ?

KOMPAS TV
INDEPENDEN | TERPERCAYA

KOMPAS TV > NASIONAL > UPDATE CORONA

Epidemiolog: Varian Baru Covid-19 Omicron 500 Persen Lebih Cepat Menular dari Virus Awal

Update corona | 28 November 2021 | 14:58 WIB



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Ilustrasi mikroskopis virus corona. Para ilmuwan di Afrika Selatan mengumumkan hari Kamis, (25/11/2021) mereka mendeteksi varian baru Covid-19 dengan banyak mutasi (Sumber: France24)

Tribunnews.com

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Virus Corona

Epidemiolog Sebut Varian Baru Covid-19 Omicron 500 Persen Lebih Menular Dibanding Virus Corona Awal

Senin, 29 November 2021 05:25 WIB

Penulis: [Shella La...](#) [WhatsApp](#) [Facebook](#) [Twitter](#) [AA](#)

Editor: [Tiara Shel...](#)



Corona Varian Omicron 500 Persen Lebih Menular, WHO Sebut Mengkhawatirkan

Minggu, 28 November 2021 | 07:25 WIB

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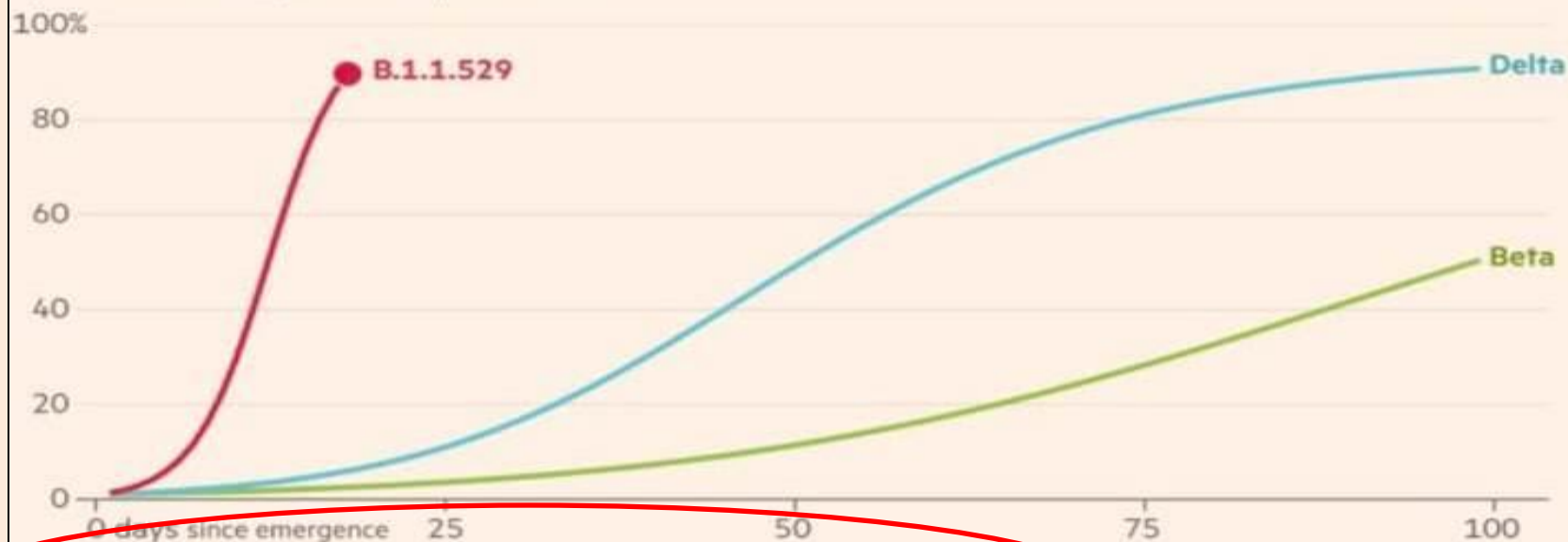
Ilustrasi varian baru virus corona ditemukan di Botswana, Afrika Selatan. Ilmuwan setempat memperingatkan varian baru Covid-19 yang disebut B.1.1.529 dapat menghindari kekebalan dan berpotensi meningkatkan penularan. Varian Omicron ini telah dilaporkan ke WHO, dan menunjukkan penyebaran sangat cepat di Afrika Selatan.

Penulis: [Farid Assifa](#) | Editor: [Farid Assifa](#)

DATA AWAL 500% PENULARAN VARIAN OMICRON

A new variant is spreading rapidly in South Africa, and appears to be out-competing other variants much faster than previous variants of concern did

Share of all sequenced cases* in South Africa accounted for by each variant, by number of days since it passed 1%



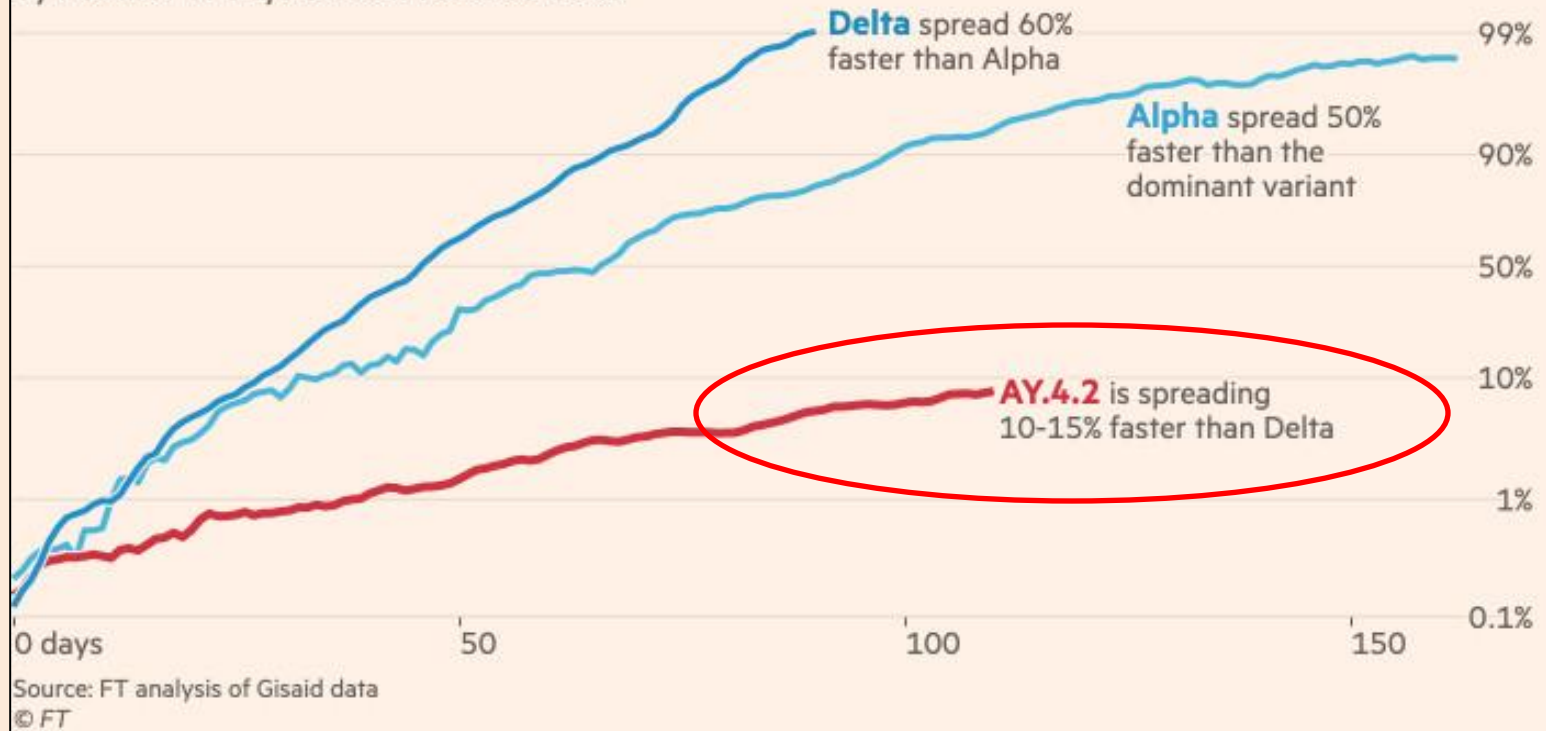
*Growth of B.1.1.529 is modelled from SGTF data rather than full genomic sequences
Source: FT analysis of data from GISAID and the South African National Health Laboratory Service

- Pertumbuhan varian B.1.1.529 **500% LEBIH CEPAT BERDASARKAN MODEL PERKIRAAN** dari data SGTF bukan dari data sequence seluruh genome & bukan dari data fakta kenyataan.
 - Sumber : Analisa data FT dari GISAID & Pelayanan Kesehatan Nasional Afrika Selatan.
- ** SGTF (Spike Gene Total Failure), FT (Fault Tree)

DATA AWAL VARIAN AY.4.2 DELTA PLUS 15% LEBIH CEPAT MENYEBAR DARI DELTA

Early data indicate the new AY.4.2 variant is growing as a share of cases in the UK, but is unlikely to be the game-changer that Alpha and Delta were

Each variant's share of all sequenced UK cases of Covid-19 (logit scale), by number of days since it reached 0.1%



- Perbedaan antara text & gambar grafik yang menunjukkan justru AY.4.2 menyebar **LEBIH LAMBAT** dibandingkan varian **DELTA & ALFA**.

** SGTF (Spike Gene Total Failure), FT (Fault Tree)

KETIDAK JELASAN DATA VARIAN OMICRON (1)

Omicron mengkombinasi mutasi yang sebelumnya dimiliki oleh VOC lain

Peningkatan transmisi penularan, penurunan kemampuan netralisasi antibodi. Namun tidak ada bukti dalam peningkatan keparahan, terutama pada individu yang telah divaksin



Tingkat Keparahan	<u>Preliminary informasi dari Afrika Selatan menunjukkan tidak ada perbedaan gejala dan mirip dengan varian lain. Beberapa individu diketahui tidak bergejala.</u>
Transmisi penularan	<u>Kemungkinan lebih cepat menular dibanding varian delta dan re-infeksi</u>
Escape immunity	<u>Beberapa mutasi di protein Spike menunjukkan efek yang signifikan terhadap penurunan kemampuan antibodi dalam menetralsasi virus. Efek resistensi terhadap vaksinasi belum diketahui</u>

Source : [Outbreak Info ; GISAID; ECDC Threat assessment brief], Xia, X. 2021. NatMed ; Harvey W. 2021. Nature Reviews Microbiology; Liu, Y. 2021 Nature ; Huang, H. 2021. Cell Death & Differentiation; Zuckerman, 2021. Vaccine

Antibody yang mengalami penurunan netralisasi virus HANYA ANTIBODY PROTEIN S-RBD SAJA

KETIDAK JELASAN DATA VARIAN OMICRON (2)

- Omicron memiliki **lebih dari 30 mutasi** pada Spike protein.
- Beberapa mutasi, telah diketahui efeknya

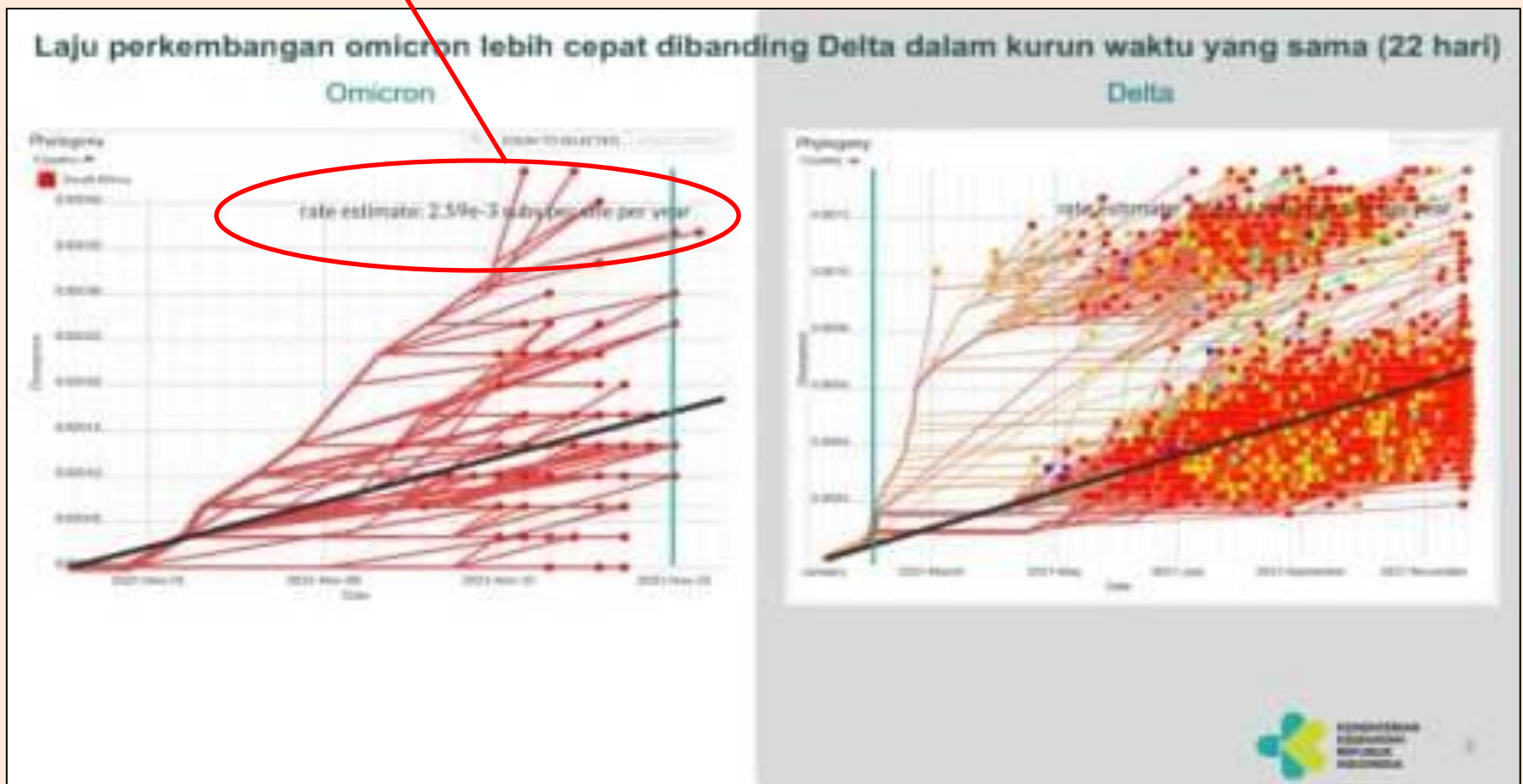
Protein	Mutasi	Efek
Spike	del 69-70 dan D796Y	penurunan respon imun
	K417N	
	del 144	
	E484A	
	N440K	
	del 144-145	penurunan respon imun dan kenaikan transmisi
N501Y		
P681H		
Spike	D614G	Transmisibility
	Q493R	
	G339D	
Nucleo capsid	P13L	Mengurangi respon T sel

HANYA PENURUNAN RESPON IMUN TERHADAP ANTIBODY PROTEIN S-RBD SAJA (2%)

TRANSMISI HANYA BISA DIUKUR DENGAN PENGAMBILAN SAMPEL DAHAK AKIBAT INFEKSI **BUKAN DARI SAMPEL SWAB PAPANAN TEMPELAN VIRUS**

KETIDAK JELASAN DATA VARIAN OMICRON (3)

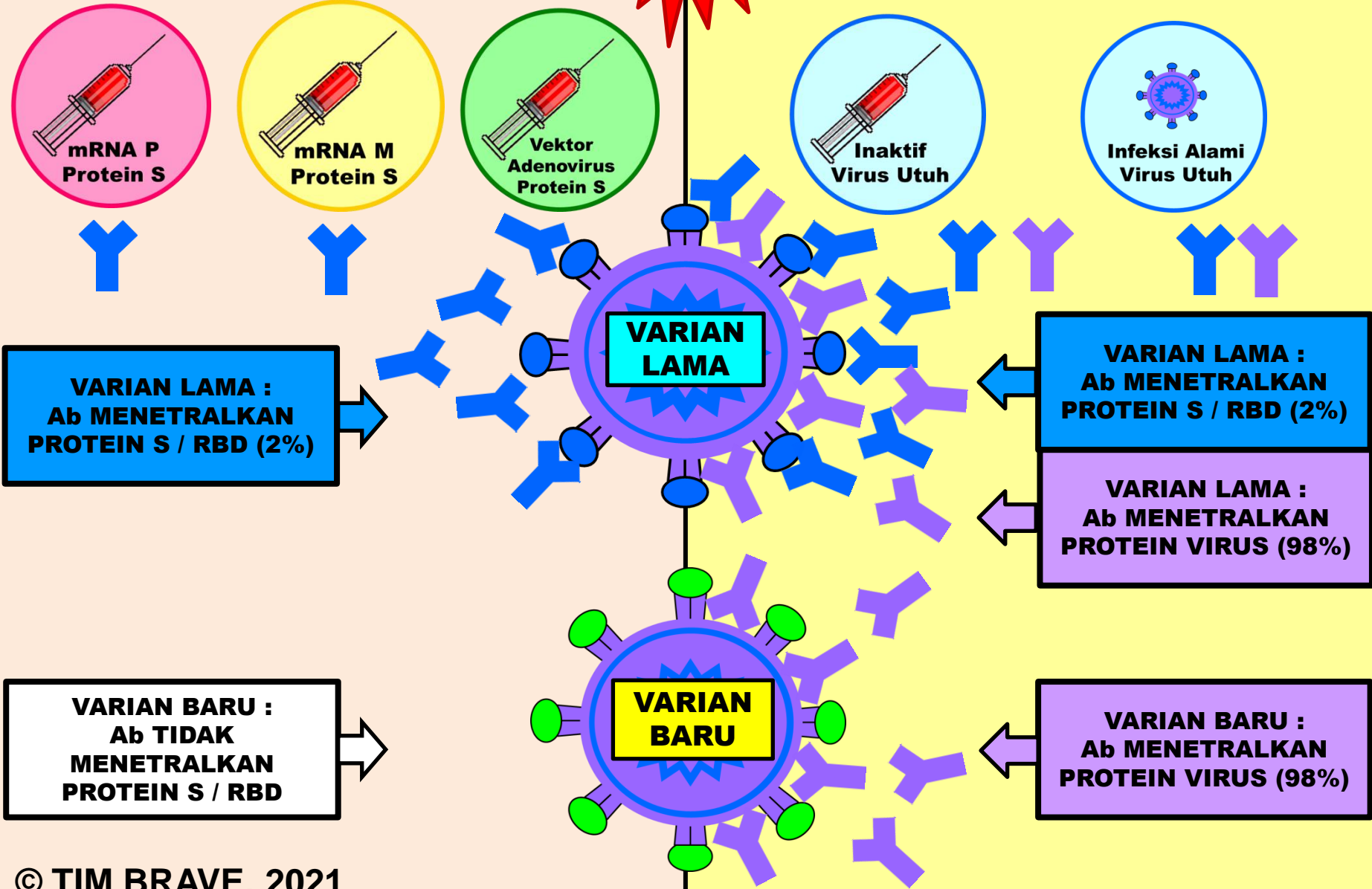
RATE ESTIMATE : PERKIRAAN RERATA
PENINGKATAN – BUKAN DATA
BERDASARKAN FAKTA



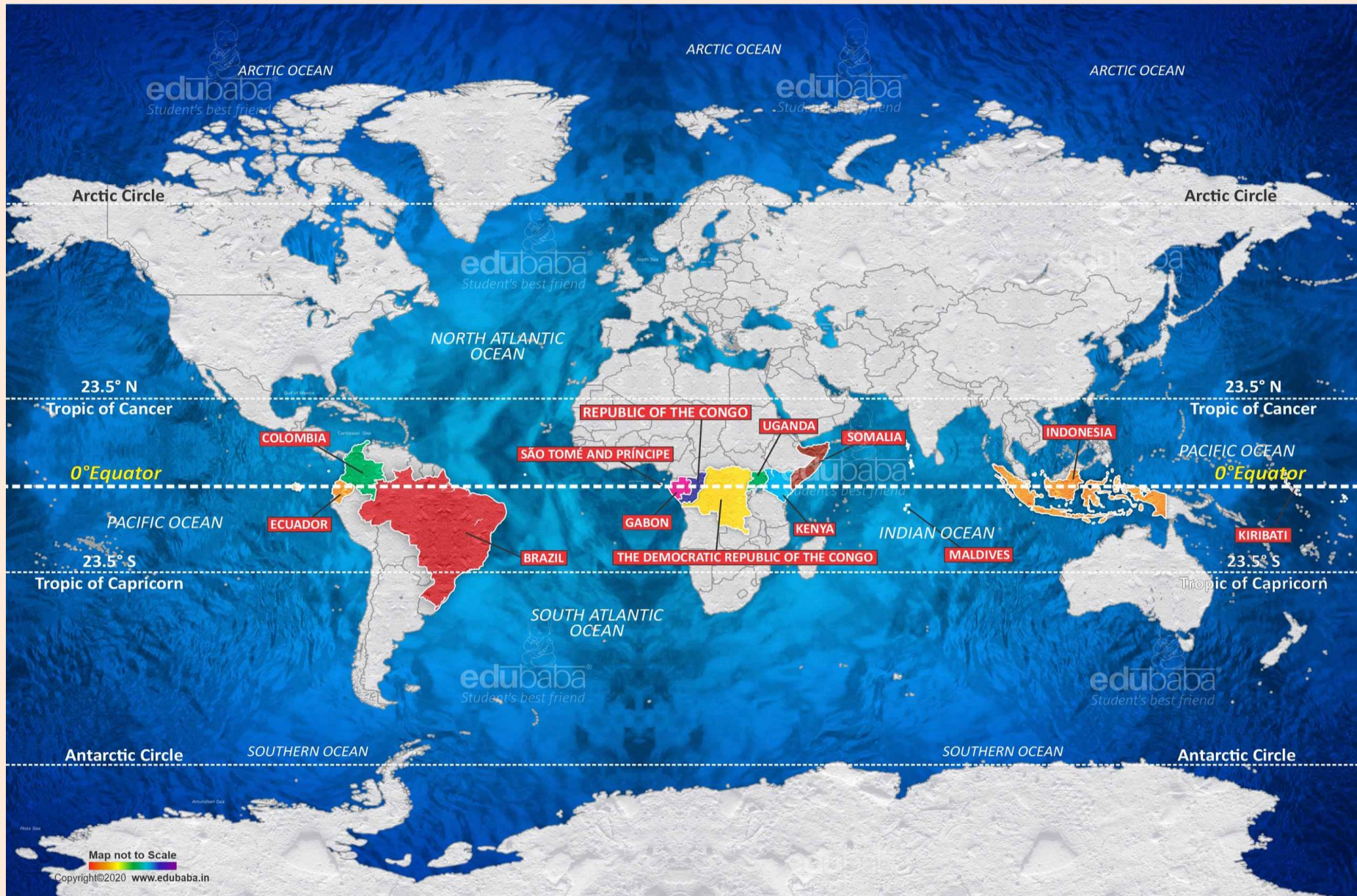
VAKSIN PROTEIN S

VS.

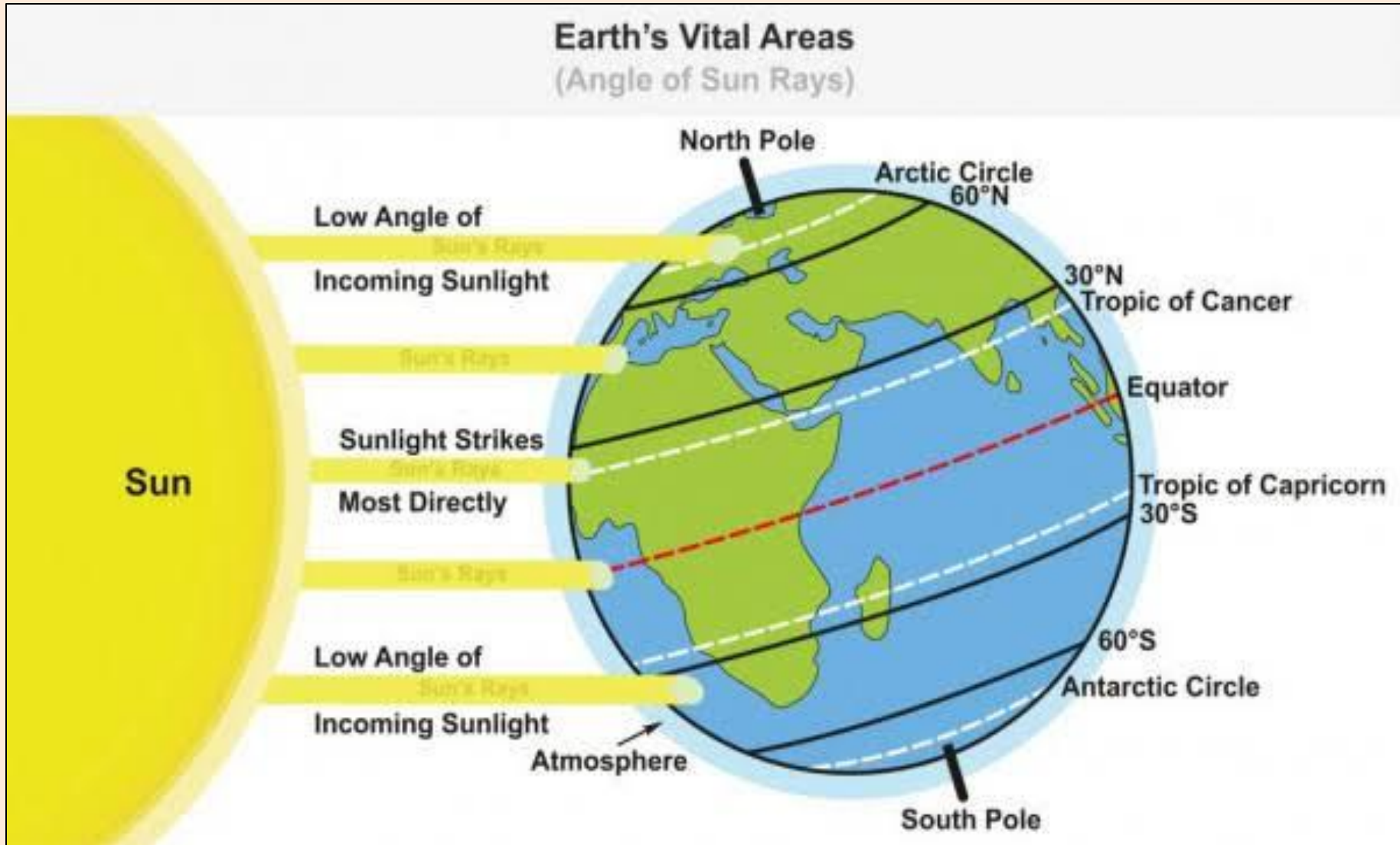
VAKSIN VIRUS UTUH



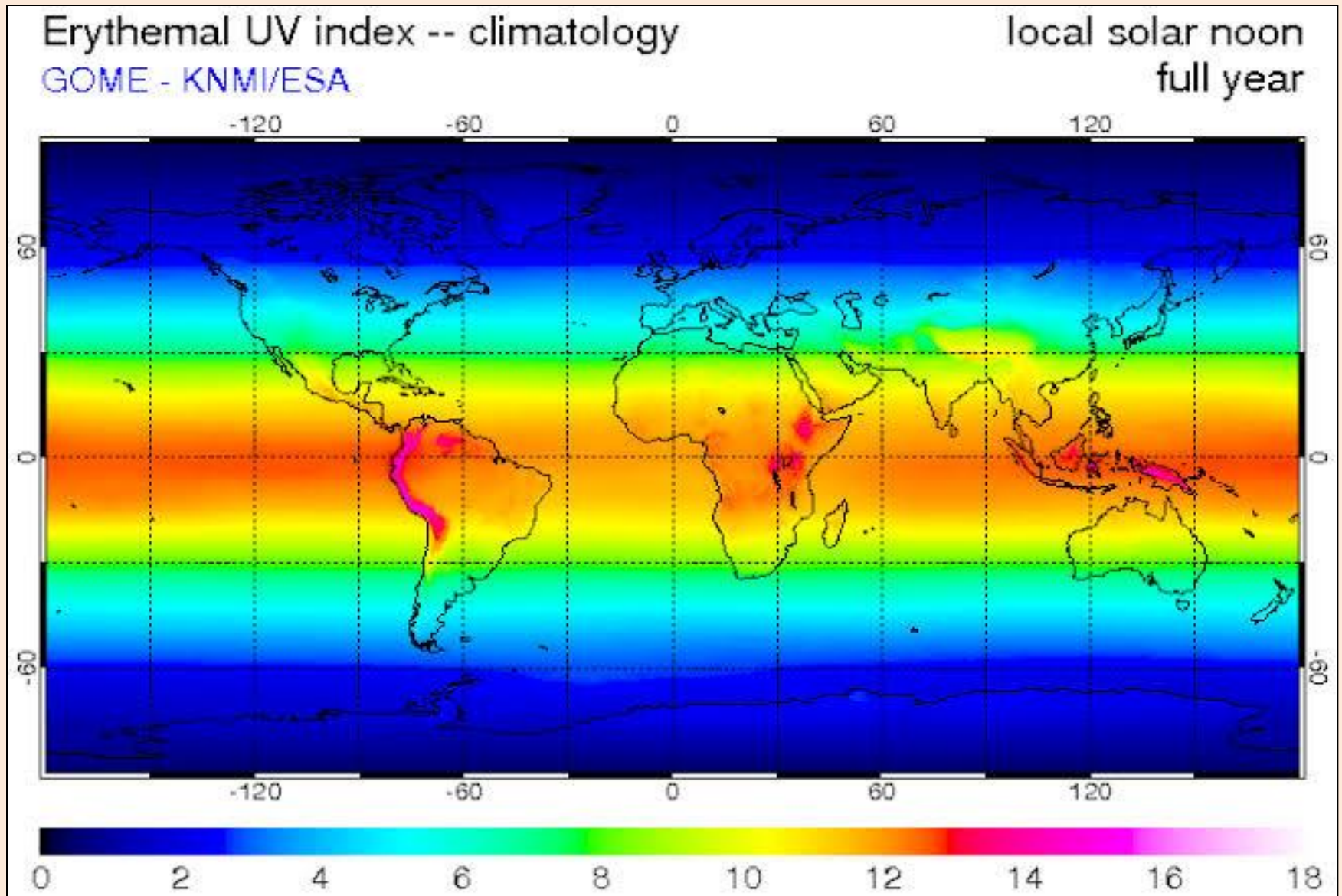
INDONESIA & GARIS KATULISTIWA (1)



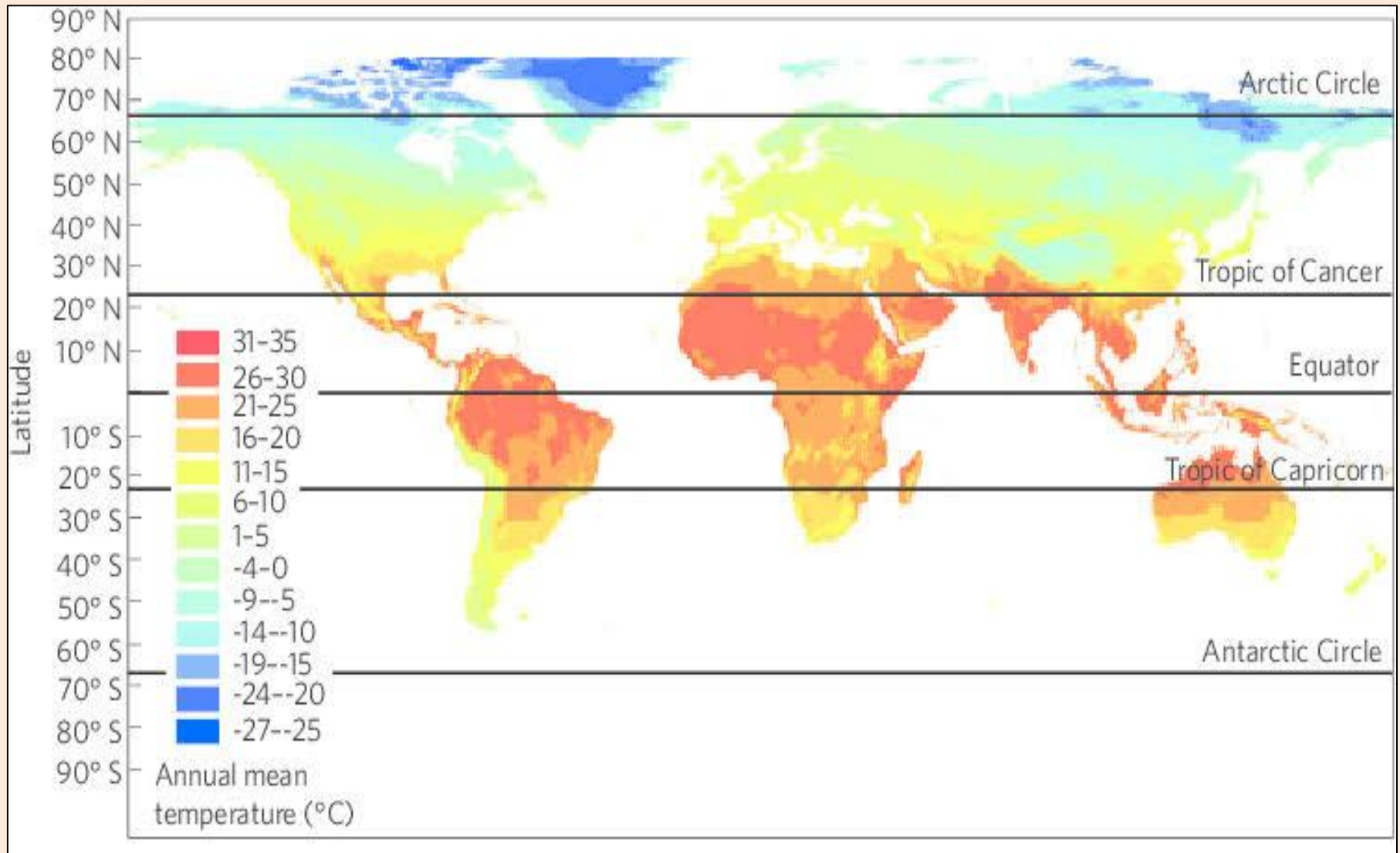
INDONESIA & GARIS KATULISTIWA (2)



INDONESIA & GARIS KATULISTIWA (3)



INDONESIA & GARIS KATULISTIWA (4)



ISOLAT VIRUS CoViD19 INDONESIA

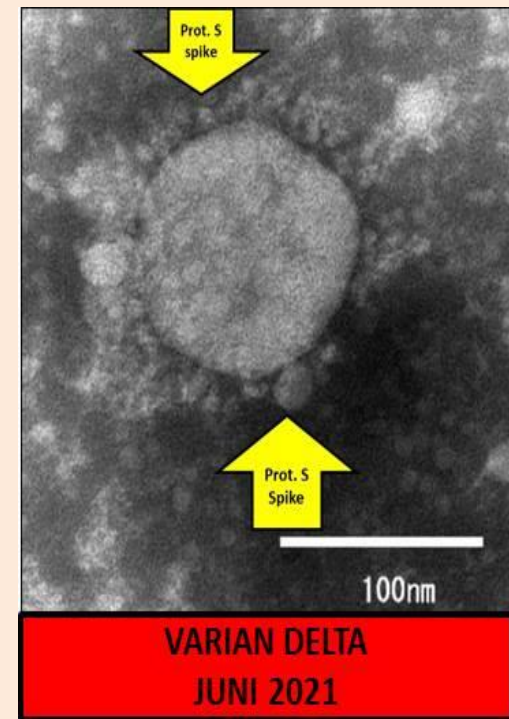
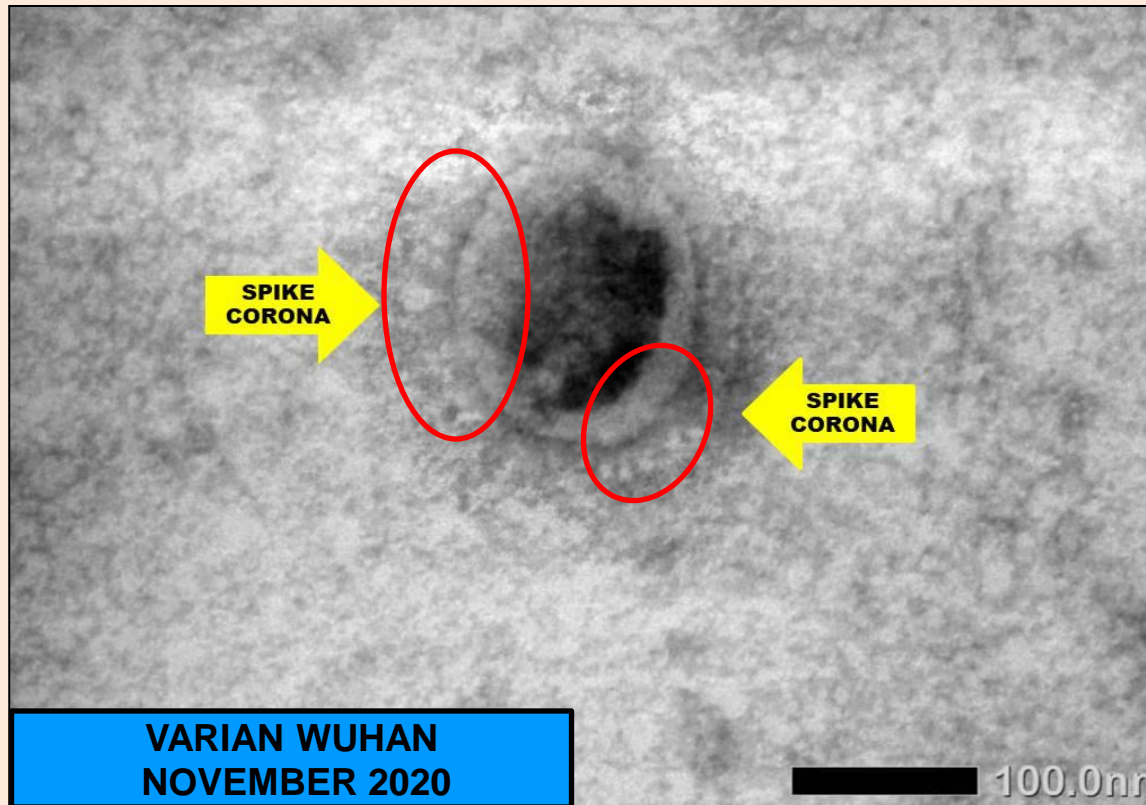


Foto virus SARS CoV2 pertama di Indonesia menggunakan Transmisible Elektron Mikroscope. Ukuran virus SARS CoV2 100 nm (1 nm = 1/10 juta cm)

KELEMAHAN VIRUS CoViD19 DI INDONESIA

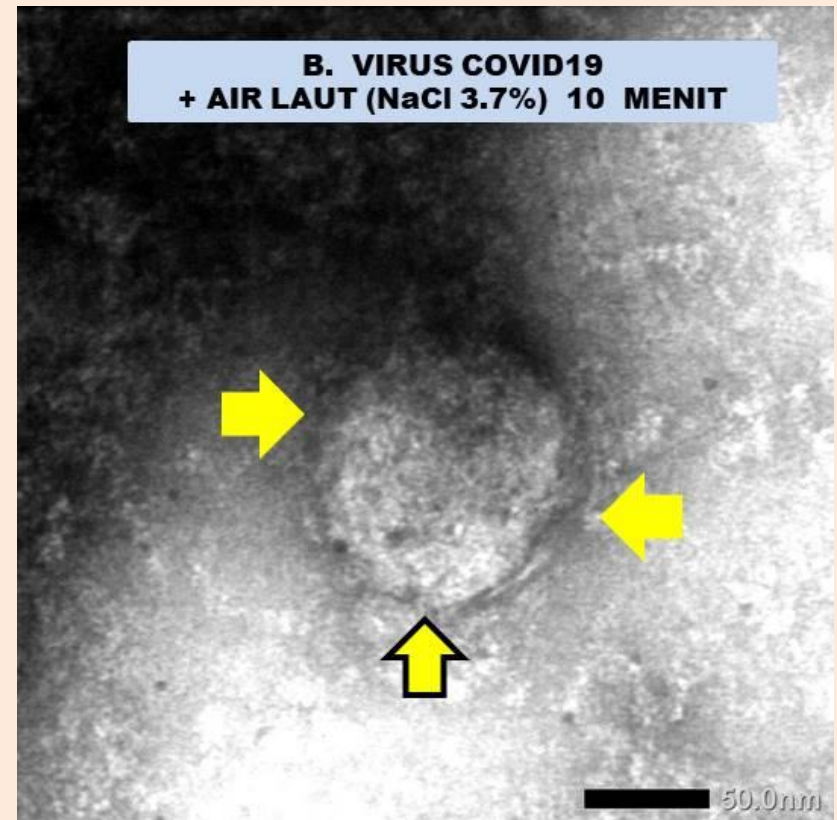
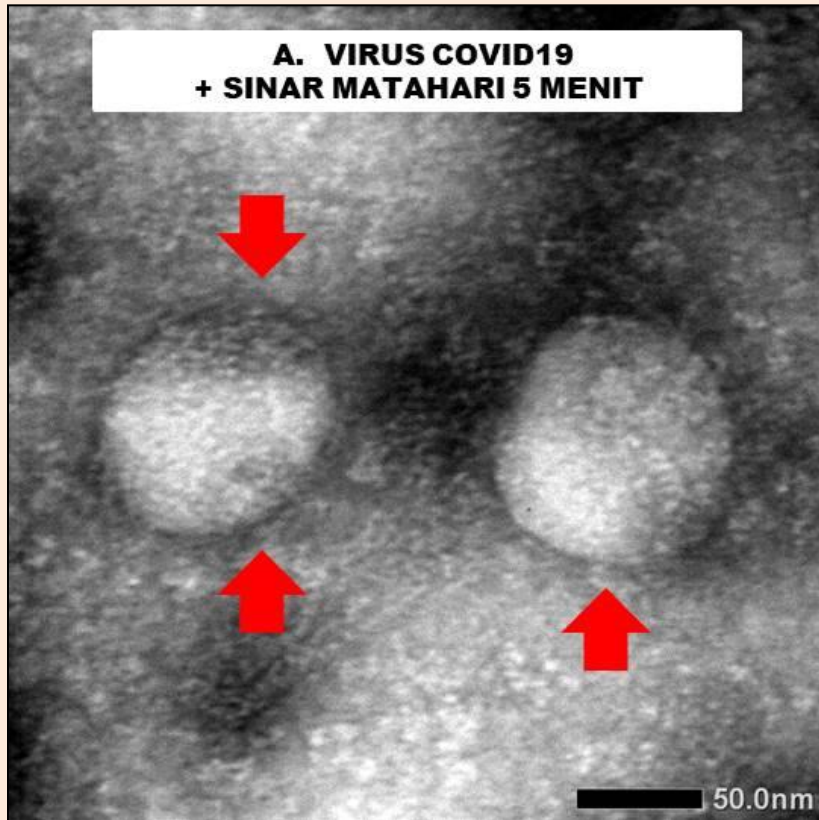
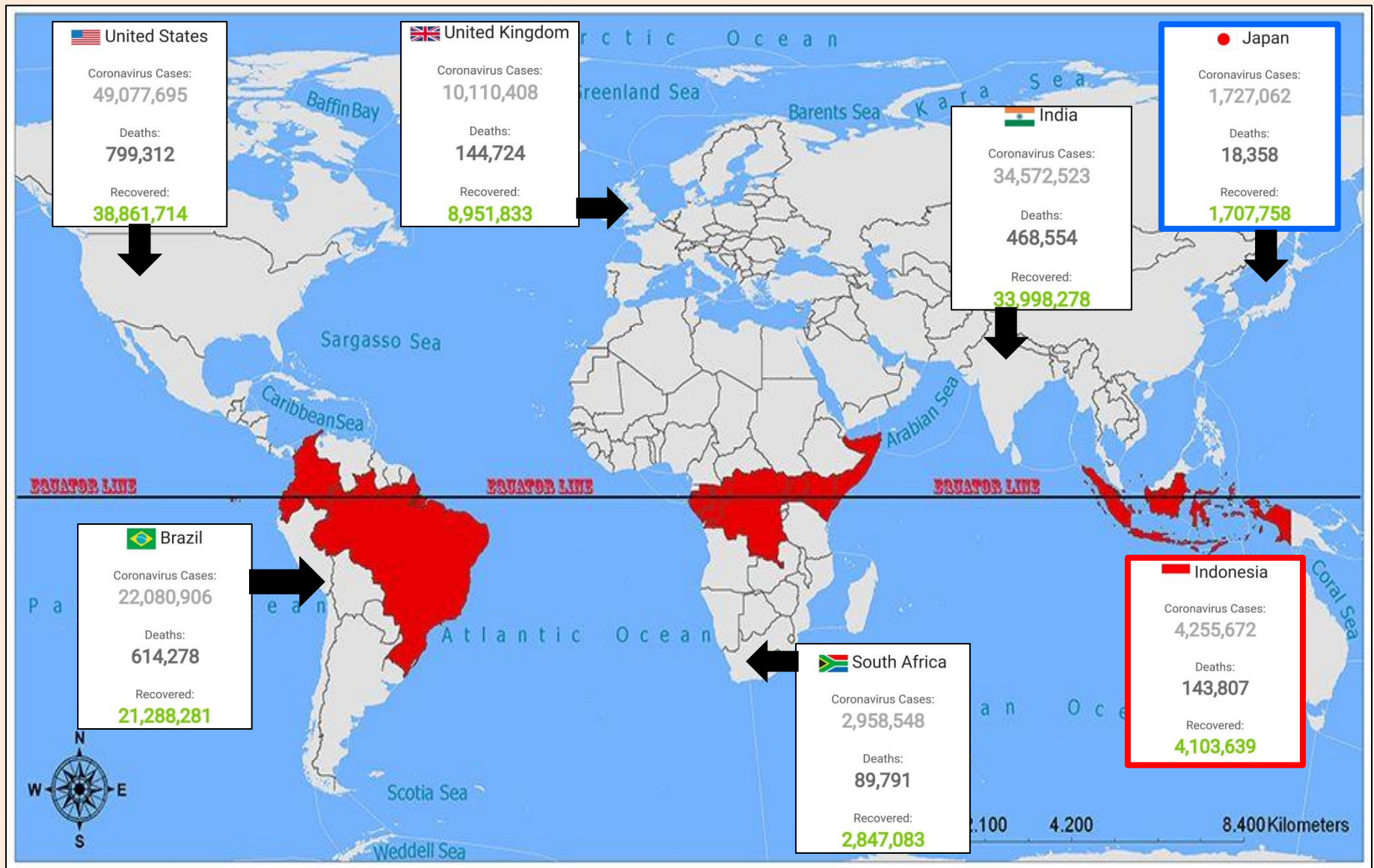


Foto Mikroskop Elektron kehancuran virus SARS CoV2 saat terekspose sinar matahari selama 5 menit (protein S /spike hancur sehingga virus ini tidak bisa menempel ke reseptor) & kehancuran protein M (membran) + protein E (Envelope) saat direndam air laut selama 10 menit.

Virus terbuat dari protein & lemak sehingga SEMUA PELARUT LEMAK (sabun/deterjen/pembersih lantai/pemutih pakaian/cairan pencuci piring) dapat MENGHANCURKAN VIRUS.

INDONESIA & GARIS KATULISTIWA (2)



KESIMPULAN AKHIR

- 1. Varian adalah KUMPULAN MUTASI ASAM AMINO di ujung RBD protein S sebesar 2%, sementara 98% masih merupakan virus CoViD19 YANG SAMA.**
- 2. Varian DELTA, DELTA PLUS, MU & OMICRON adalah varian yang menunjukkan perubahan di protein S-RBD ujung duri virus CoViD19. Hanya berubah pada protein ujung saja sementara virusnya MASIH TETAP SAMA CoViD19 (dengan 97% kesembuhan).**
- 3. Antibody hasil VAKSIN VIRUS UTUH dimatikan ATAU hasil infeksi alami masih bisa menetralkan 98% protein virus CoViD19 yang sama sehingga bisa menetralkan infeksi varian apapun yang menginfeksi tubuh.**
- 4. VAKSIN PROTEIN S menghasilkan antibody protein S-RBD saja yang tidak bisa menetralkan PERUBAHAN VARIAN VIRUS.**
- 5. Varian virus CoViD19 terdiri dari protein yang akan hancur oleh pelarut lemak, sabun, 5 menit setelah terekspose sinar matahari di Indonesia (suhu 28-31°C & UV index 8-10).**