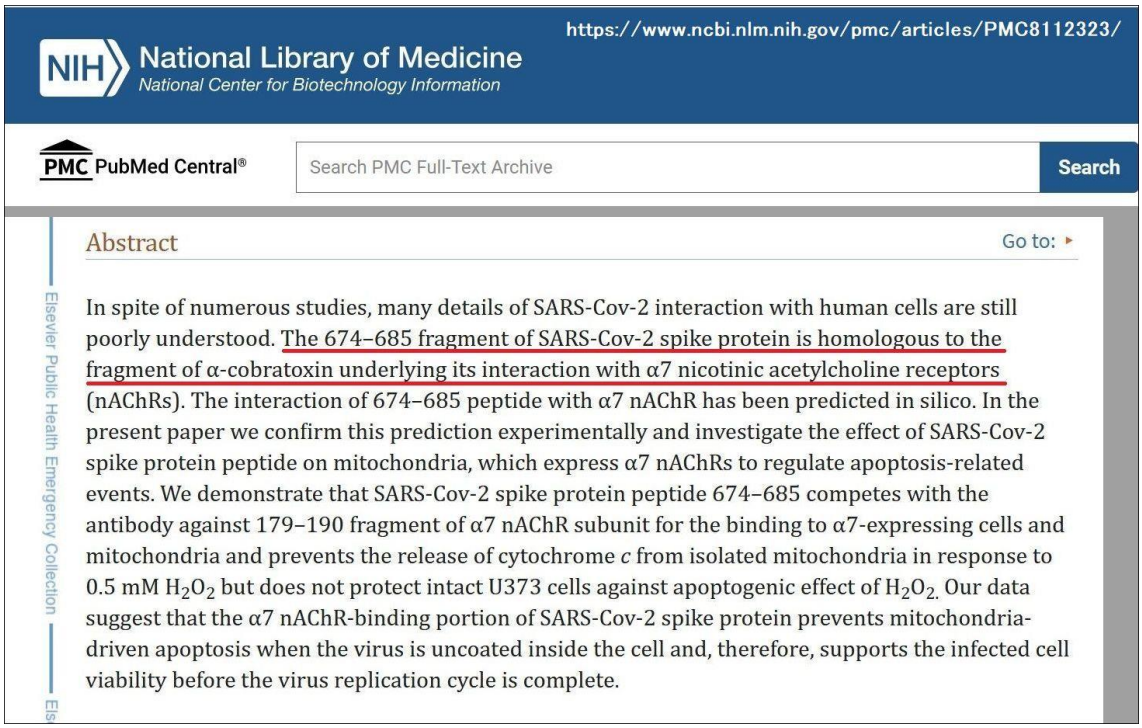
SARS-CoV2 Spike Protein and Cobratoxin



https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8112323/

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Abstract

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In spite of numerous studies, many details of SARS-Cov-2 interaction with human cells are still poorly understood. The 674–685 fragment of SARS-Cov-2 spike protein is homologous to the fragment of α-cobratoxin underlying its interaction with α7 nicotinic acetylcholine receptors (nAChRs). The interaction of 674–685 peptide with α7 nAChR has been predicted in silico. In the present paper we confirm this prediction experimentally and investigate the effect of SARS-Cov-2 spike protein peptide on mitochondria, which express α7 nAChRs to regulate apoptosis-related events. We demonstrate that SARS-Cov-2 spike protein peptide 674–685 competes with the antibody against 179–190 fragment of α7 nAChR subunit for the binding to α7-expressing cells and mitochondria and prevents the release of cytochrome *c* from isolated mitochondria in response to 0.5 mM H_2O_2 but does not protect intact U373 cells against apoptogenic effect of H_2O_2. Our data suggest that the α7 nAChR-binding portion of SARS-Cov-2 spike protein prevents mitochondria-driven apoptosis when the virus is uncoated inside the cell and, therefore, supports the infected cell viability before the virus replication cycle is complete.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8112323/

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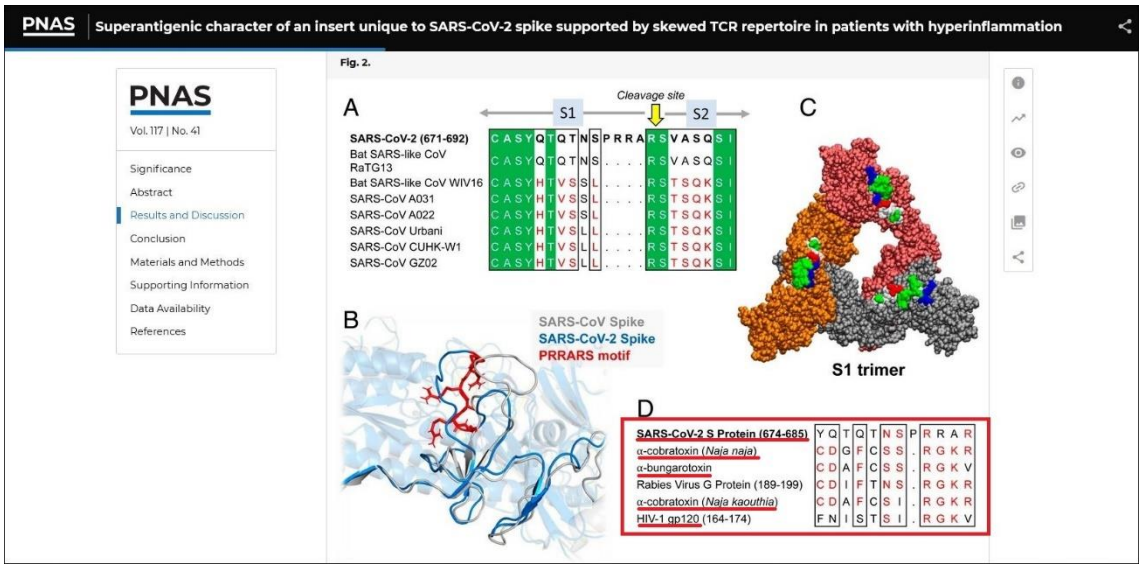
○ **A hyperinflammatory syndrome** reminiscent of **toxic shock syndrome (TSS)** is observed in severe COVID-19 patients, including children with **Multisystem Inflammatory Syndrome in Children (MIS-C)**.

(Quoted from : https://www.pnas.org/doi/10.1073/pnas.2010722117)



PNAS | Superantigenic character of an insert unique to SARS-CoV-2 spike supported by skewed TCR repertoire in patients with hyperinflammation

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Significance
Abstract
Results and Discussion
Conclusion
Materials and Methods
Supporting Information
Data Availability
References

Fig. 2.

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Results and Discussion
Conclusion
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Further Examination of the Motif near PRRA Reveals Close Structural Similarity to the SEB Superantigen as well as Sequence Similarities to Neurotoxins and a Viral SAg.

The insertion PRRA together with seven sequentially preceding residues and succeeding R685 (conserved among β-CoVs) form a motif, Y_{674}QTQTNSPRRAR$_{685}$, homologous to those of neurotoxins from *Ophiophagus* (cobra) and *Bungarus genera*, as well as the neurotoxin-like regions from three RABV strains (20) (Fig. 2*D*). We further noticed that the same segment bears close similarity to the HIV-1 glycoprotein gp120 SAg motif F164 to V174. This close sequence similarity to both bacterial and viral SAgs, in support of the potential superantigenic character of the stretch Y674 to R685 of SARS-CoV-2 S, directed us to further analyze its local sequence and structure.

https://www.pnas.org/doi/10.1073/pnas.2010722117

SARS-CoV-2 vaccine (mRNA-LNP, spike protein) is used as an active immunization against COVID-19 caused by the SARS-CoV-2 virus in patients 5 years of age and older. SARS-CoV-2 (COVID-19) vaccine is used to prevent coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

https://www.mayoclinic.org/drugs-supplements/sars-cov-2-covid-19-vaccine-mrna-lnp-spike-protein-pfizer-intramuscular-route/description/drg-20506420

Ophiophagus（= King cobra）

https://en.wikipedia.org/wiki/King_cobra

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King cobra

From Wikipedia, the free encyclopedia

This article is about the snake. For other uses, see King Cobra (disambiguation).
Not to be confused with Indian cobra.

The **king cobra** (*Ophiophagus hannah*) is a venomous snake species of elapids endemic to jungles in Southern and Southeast Asia. The sole member of the genus *Ophiophagus*, it is distinguishable from other cobras, most noticeably by its size and neck patterns. The king cobra is the world's longest venomous snake, with an average length of 3.18 to 4 m (10.4 to 13.1 ft),[2] reaching a maximum of 5.85 m (19.2 ft).[3] Its skin colour varies across the habitats, from black with white stripes to unbroken brownish grey. It preys chiefly on other snakes, including its own species. Unlike other snakes, it rarely hunts other vertebrates, such as rodents and lizards.

Like most cobras and mambas, the king cobra's threat display includes spreading its neck-flap, raising its head upright, puffing, and hissing. Despite its fearsome reputation, the king cobra avoids confrontation with humans whenever possible. When provoked, however, it is capable of striking a target at long range and well above the ground. Rather than biting and retreating, it may sustain its bite and inject a large quantity of venom, which is a medical emergency.[4][5]

Regarded as the national reptile of India,[6] this species has an eminent position in mythology and folk traditions of India, Sri Lanka and Myanmar.[7][8] Threatened by habitat destruction, the king cobra has been listed as Vulnerable on the IUCN Red List since 2010.[1]

King cobra

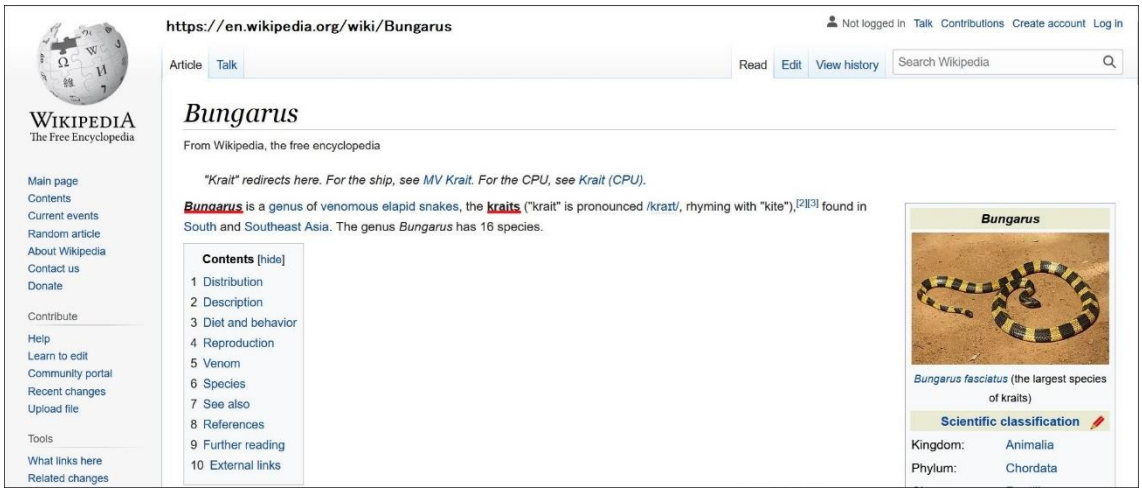
Conservation status

Extinct — Threatened — Least Concern

EX EW CR EN VU NT LC

https://en.wikipedia.org/wiki/King_cobra

Bungarus genera



https://en.wikipedia.org/wiki/Bungarus

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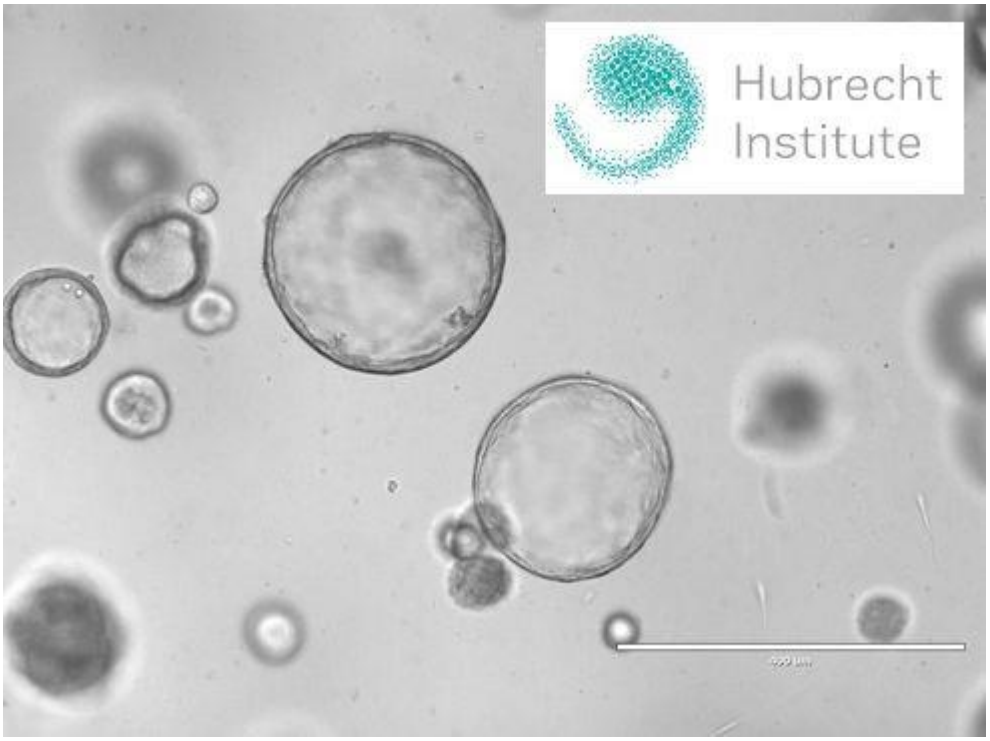
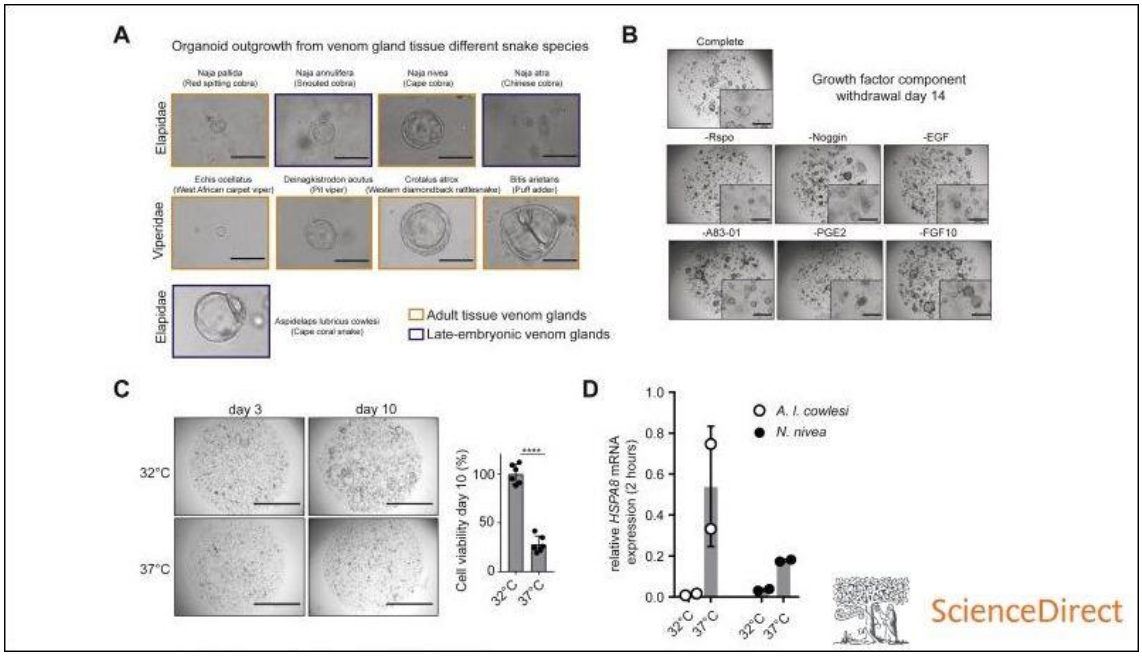
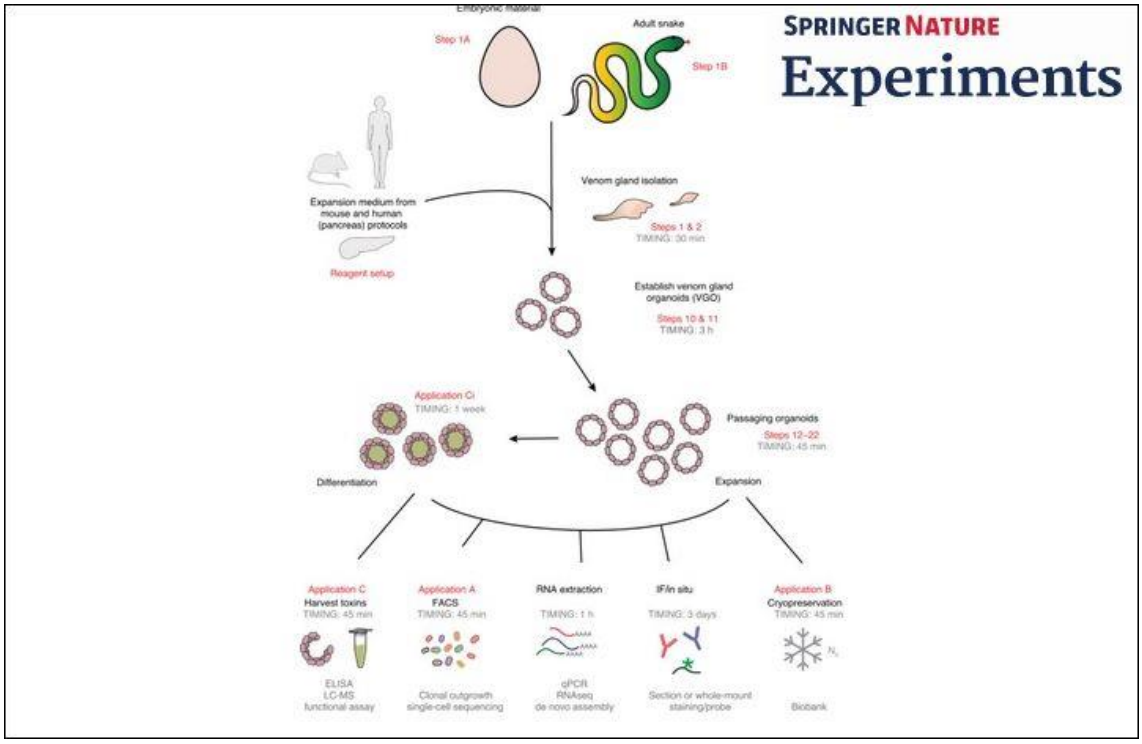
◯ Here is how to produce man-made venom in the lab.



https://www.hubrecht.eu/venom-producing-snake-organoids-developed-in-the-lab/



https://www.sciencedirect.com/science/article/pii/S0092867419313236



https://experiments.springernature.com/articles/10.1038/s41596-020-00463-4

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Appendix

SARS-CoV-2 S Protein (674-685)	Y	Q	T	Q	T	N	S	P	R	R	A	R
α-cobratoxin (*Naja naja*)	C	D	G	F	C	S	S	.	R	G	K	R
α-bungarotoxin	C	D	A	F	C	S	S	.	R	G	K	V
Rabies Virus G Protein (189-199)	C	D	I	F	T	N	S	.	R	G	K	R
α-cobratoxin (*Naja kaouthia*)	C	D	A	F	C	S	I	.	R	G	K	R
HIV-1 gp120 (164-174)	F	N	I	S	T	S	I	.	R	G	K	V

https://www.pnas.org/doi/10.1073/pnas.2010722117#body-ref-r63

(Video : Evidence of HIV gp120 Inserts in the Spike Protein.)

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Further information that I have provided ;

◆ For dear truth seekers. (Your soul is at stake.)

http://mitsukoitoviolinrecital.web.fc2.com/fordeartruthseekers.pdf

◆ Photo Gallery (EVIDENCE of undisclosed ingredients.)

http://mitsukoitoviolinrecital.web.fc2.com/2022photogalleryoftheliquid.pdf

◆ Nano Metal + EMF (electromagnetic field) → Self Assembling Wires http://mitsukoitoviolinrecital.web.fc2.com/metalemfwires.pdf

◆ Died Suddenly (Film /18 禁映画)

http://mitsukoitoviolinrecital.web.fc2.com/diedsuddenly.pdf

◆ Invitation to "SALVATION" / 「救い」への招き

http://mitsukoitoviolinrecital.web.fc2.com/invitationtosalvation.pdf

◆ **What should we believe？/**

http://mitsukoitoviolinrecital.web.fc2.com/faithinthesonenglish.html

◆ **何を信じれば良いのか？**

http://mitsukoitoviolinrecital.web.fc2.com/faithintheson.html

May the LORD God The CREATOR save YOUR SOUL.

Love,

Mitsuko ITO （24 April, 2022） Updated on 27 April, 2022

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