# EVBC Newsletter

## Special Issue • SARS-CoV-2 • December 2020

**European VIRUS BIOINFORMATICS Center**
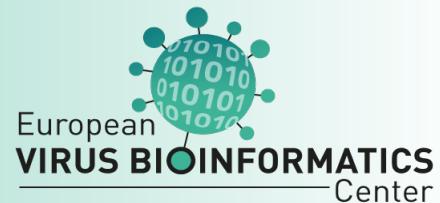
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## Recent Selected Publications on SARS-CoV-2 by EVBC Members

Transmission of SARS-CoV-2 on mink farms between humans and mink and back to humans. *Science* **10.1126/science.abe5901**

Characterization of pre-existing and induced SARS-CoV-2-specific CD8^{+} T cells. *Nat Med* **10.1038/s41591-020-01143-2**

Genome-wide mapping of SARS-CoV-2 RNA structures identifies therapeutically-relevant elements. Now published in *Nucleic Acids Res* **10.1093/nar/gkaa1053**

STAT2 signaling restricts viral dissemination but drives severe pneumonia in SARS-CoV-2 infected hamsters. Now published in *Nat Commun* **10.1038/s41467-020-19684-y**

SARS-CoV-2-induced gastrointestinal inflammation. *Aliment Pharmacol Ther* **10.1111/apt.16087**

Antibody response using six different serological assays in a completely PCR-tested community after a COVID-19 outbreak - The CoNAN study. Now published in *Clin Microbiol Infect* **10.1016/j.cmi.2020.11.009**

Aprotinin Inhibits SARS-CoV-2 Replication. *Cells* **10.3390/cells9112377**

A case of psoriatic arthritis triggered by SARS-CoV-2 infection. *Rheumatology* **10.1093/rheumatology/keaa691**

Aerosol persistence in relation to possible transmission of SARS-CoV-2. *Phys Fluids* **10.1063/5.0027844**

Daily Viral Kinetics and Innate and Adaptive Immune Response Assessment in COVID-19: a Case Series. Now published in *mSphere* **10.1128/mSphere.00827-20**

Multi-species ELISA for the detection of antibodies against SARS-CoV-2 in animals. *Transbound Emerg Dis* **10.1111/tbed.13926**

Case report of a neonate with high viral SARSCoV-2 loads and long-term virus shedding. *J Infect Public Health* **10.1016/j.jiph.2020.10.013**

### Reviews

Computational strategies to combat COVID-19: useful tools to accelerate SARS-CoV-2 and coronavirus research. Now published in *Brief Bioinform* **10.1093/bib/bbaa232**

### Preprints

The circulating SARS-CoV-2 spike variant N439K maintains fitness while evading antibody-mediated immunity. *bioRxiv* **10.1101/2020.11.04.355842**

Comparison of seven commercial SARS-CoV-2 rapid Point-of-Care Antigen tests. *medRxiv* **10.1101/2020.11.12.20230292**

SARS-CoV-2 spike D614G variant confers enhanced replication and transmissibility. *bioRxiv* **10.1101/2020.10.27.357558**

Susceptibility of well-differentiated airway epithelial cell cultures from domestic and wildlife animals to SARS-CoV-2. *bioRxiv* **10.1101/2020.11.10.374587**

COVIDStrategyCalculator: A standalone software to assess testing- and quarantine strategies for incoming travelers, contact person management and de-isolation. *medRxiv* **10.1101/2020.11.18.20233825**

Quantifying SARS-CoV-2 spread in Switzerland based on genomic sequencing data. *medRxiv* **10.1101/2020.10.14.20212621**

📖 **EVBC publications on SARS-CoV-2**

## SARS-CoV-2 Bioinformatics Tools and Resources

– **coronaSPAdes:** coronavirus assembly mode for SPAdes assembler which allows to assemble full-length coronaviridae genomes from transcriptomic and metatranscriptomic data.

– **COVIDStrategyCalculator**: to assess testing- and quarantine strategies for incoming travelers, contact person management and de-isolation.

– **hCoronavirusesDB:** genetic and proteomic database for the human coronaviruses SARS-CoV, MERS-CoV, and SARS-CoV-2.

– **Rfam:** comprehensive annotation of viral RNA families starting with Flavivirus and Coronaviridae RNAs.

– **SARS-CoV-2 Genome Assembly and Annotation Service:** streamlined "meta-service" that accepts raw reads and performs genome assembly, annotation, and variation analysis

🔧 **Coronavirus tools website**
(currently under maintenance)