EVBC Newsletter

Special Issue • SARS-CoV-2 • July 2020

European VIRUS BIOINFORMATICS Center

Recent Selected Publications on SARS-CoV-2 by EVBC Members

Belgium — concerns about coronavirus contact-tracing apps. *Nature* 10.1038/d41586-020-01552-w

Type III interferons disrupt the lung epithelial barrier upon viral recognition. Now published in *Science* 10.1126/science.abc3545

COVID-19 severity correlates with airway epithelium–immune cell interactions identified by single-cell analysis. Now published in *Nat Biotechnol* 10.1038/s41587-020-0602-4

A Prospect on the Use of Antiviral Drugs to Control Local Outbreaks of COVID-19. Now published in *BMC Med* 10.1186/s12916-020-01636-4

SARS-CoV-2 Phylogenetic Analysis, Lazio Region, Italy, February–March 2020. *Emerg Infect Dis* 10.3201/eid2608.201525

SARS-CoV-2 Infection in Farmed Minks, the Netherlands, April and May 2020. *Euro Surveill* 10.2807/1560-7917.ES.2020.25.23.2001005

Multicentre Comparison of Quantitative PCR-based Assays to Detect SARS-CoV-2, Germany, March 2020. *Euro Surveill* 10.2807/1560-7917.ES.2020.25.24.2001057

Temperature-dependent Surface Stability of SARS-CoV-2. *J Infect* 10.1016/j.jinf.2020.05.074

Interferon-β 1a Inhibits SARS-CoV-2 *in Vitro* When Administered After Virus Infection. *J Infect Dis* 10.1093/infdis/jiaa350

CORDITE: The Curated CORona Drug InTERactions Database for SARS-CoV-2. *iScience* 10.1016/j.isci.2020.101297

Inhibition of SARS-CoV-2 by Type I and Type III Interferons. *J Biol Chem* 10.1074/jbc.AC120.013788

Pitfalls in SARS-CoV-2 PCR diagnostics. *Transbound Emerg Dis* 10.1111/tbed.13684

Studying the Pathophysiology of Coronavirus Disease 2019: A Protocol for the Berlin Prospective COVID-19 Patient Cohort (Pa-COVID-19). *Infection* 10.1007/s15010-020-01464-x

Preprints

Olfactory transmucosal SARS-CoV-2 invasion as port of Central Nervous System entry in COVID-19 patients. *bioRxiv* 10.1101/2020.06.04.135012

Suppressive myeloid cells are a hallmark of severe COVID-19. *medRxiv* 10.1101/2020.06.03.20119818

An analysis of SARS-CoV-2 viral load by patient age. *medRxiv* 10.1101/2020.06.08.20125484

Age-dependent progression of SARS-CoV-2 infection in Syrian hamsters. *bioRxiv* 10.1101/2020.06.10.144188

Genomic epidemiology of SARS-CoV-2 spread in Scotland highlights the role of European travel in COVID-19 emergence. *medRxiv* 10.1101/2020.06.08.20124834

Longitudinal isolation of potent near-germline SARS-CoV-2-neutralizing antibodies from COVID-19 patients. *bioRxiv* 10.1101/2020.06.12.146290

Genome-wide mapping of therapeutically-relevant SARS-CoV-2 RNA structures. *bioRxiv* 10.1101/2020.06.15.151647

Evolution and epidemic spread of SARS-CoV-2 in Brazil. *medRxiv* 10.1101/2020.06.11.20128249

CoV-GLUE: A Web Application for Tracking SARS-CoV-2 Genomic Variation. *Preprints* 10.20944/preprints202006.0225.v1

COVID-19-related coagulopathy – Is transferrin a missing link? *bioRxiv* 10.1101/2020.06.11.147025

Multi-level proteomics reveals host-perturbation strategies of SARS-CoV-2 and SARS-CoV. *bioRxiv* 10.1101/2020.06.17.156455

Holder Pasteurization Inactivates SARS-CoV-2 in Human Breast Milk. *bioRxiv* 10.1101/2020.06.17.155689

CoronaHiT: large scale multiplexing of SARS-CoV-2 genomes using Nanopore sequencing. *bioRxiv* 10.1101/2020.06.24.162156

Accommodating individual travel history, global mobility, and unsampled diversity in phylogeography: a SARS-CoV-2 case study. *bioRxiv* 10.1101/2020.06.22.165464

For more frequent updates on SARS-CoV-2 publications, please follow us on Twitter EVirusBioinfC or check our publications website.

SARS-CoV-2 Bioinformatics Tools and Resources

We are curating a list of bioinformatics tools specifically for coronaviruses. Please let us know about the tools you have developed to advance the field.

- **RNACentral Betacoronavirus sequence similarity search** to find similar betacoronavirus sequences.
- **CORDITE** aggregates all available knowledge on potential drugs for SARS-CoV-2.
- **CoV-GLUE** for the analysis of SARS-CoV-2 virus genome sequences with focus on amino acid sequence variation.
- **coronapp** is a web application to annotate and monitor SARS-CoV-2 mutations, both worldwide and in user-selected countries.
- **Covid-19 trajectories** is a monitoring tool which enables inspection of the dynamic state of the epidemic using trajectories.

News and Announcements

Send cat and dog samples to test for SARS-CoV-2. MRC-University of Glasgow Centre for Virus Research intends to investigate natural SARS-CoV-2 infections in domestic cats and dogs and is seeking the assistance of colleagues in practice to provide respiratory and/or faecal samples where they have a clinical suspicion of SARS-CoV-2 infection. 10.1136/vr.m2019

FRIEDRICH-SCHILLER-UNIVERSITÄT JENA

evbc@uni-jena.de
+49-3641-9-46482
http://evbc.uni-jena.de/
Leutragraben 1, 07743 Jena