



MUTATRACER – SARS-CoV-2

How evasive would SARS-CoV-2 be in case a drug is discovered and used? Is it possible to predict which compounds would still be effective and which would quickly lose its powers? Mutation-Triggered Drug Resistance Analysis via Competitive *E. coli* Growth-Readout (MUTATRACER) is a tool to detect all mutations in drug targets able to confer resistance to a drug.

BACKGROUND

The SARS-Cov-2 virus has already gathered several new mutations and the knowledge of the spectrum of drug resistance conferring mutations is crucial for the development of drugs that are less resistance-prone. Especially, in case of the pandemic caused by SARS-CoV-2 information about the efficacy of known and approved drugs against novel mutated strains is crucial. This data is also important for *in silico* supported drug-development approaches.

TECHNOLOGY

Based on proprietary technology acib is able to quickly develop an *E. coli* strain that can only grow if a viral enzyme (e.g. M^{pro} or PL^{pro}) is active. By linking the bacteria's survival to the activity of a viral protein any inhibitory drug would directly inhibit cell growth. If a mutant-library of the target enzyme is then screened in the presence of an inhibitory drug only variants leading to a drug resistance can grow. This allows for a very rapid (over-night) and unbiased detection of resistance conferring mutations from billions of variants in the whole enzyme (not only close to the catalytic site which is the only space presently accessible by state-of-the-art *in silico* power). This tool enables to identify drugs which will still be efficient in case of mutated SARS-CoV-2 variants!

OFFER

We offer to tailor a MUTATRACER-Strain with the drug target of your choice and test it against your potential anti-viral compounds. This technology can also be used for other drug screenings purposes (from fungal infections to cancer kinases).

EXPERTS

Prof. Dr. Rainer Schneider
Prof. Dr. Eduard Stefan

AVAILABLE FOR

- Joint Research Project
- Contract Research
- COMET Funding call

DEVELOPMENT STATUS

TRL 2

KEYWORDS

- SARS-CoV-2
- COVID-19
- Drug Resistance Profiling
- Rapid *in vivo* screening
- #fightthevirus

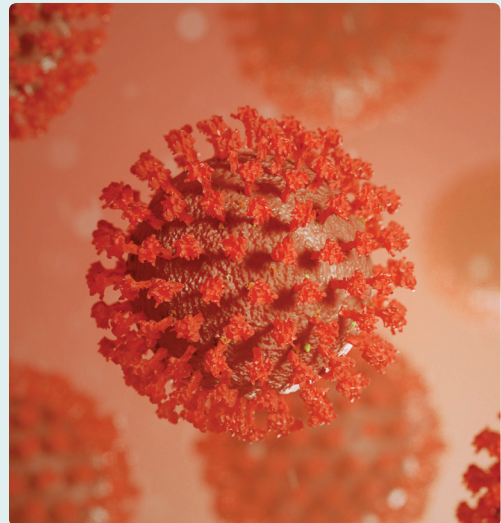


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CONTACT

acib GmbH, Krenngasse 37, 8010 Graz

☎ +43 316 873 9316

✉ bd@acib.at

🌐 www.acib.at