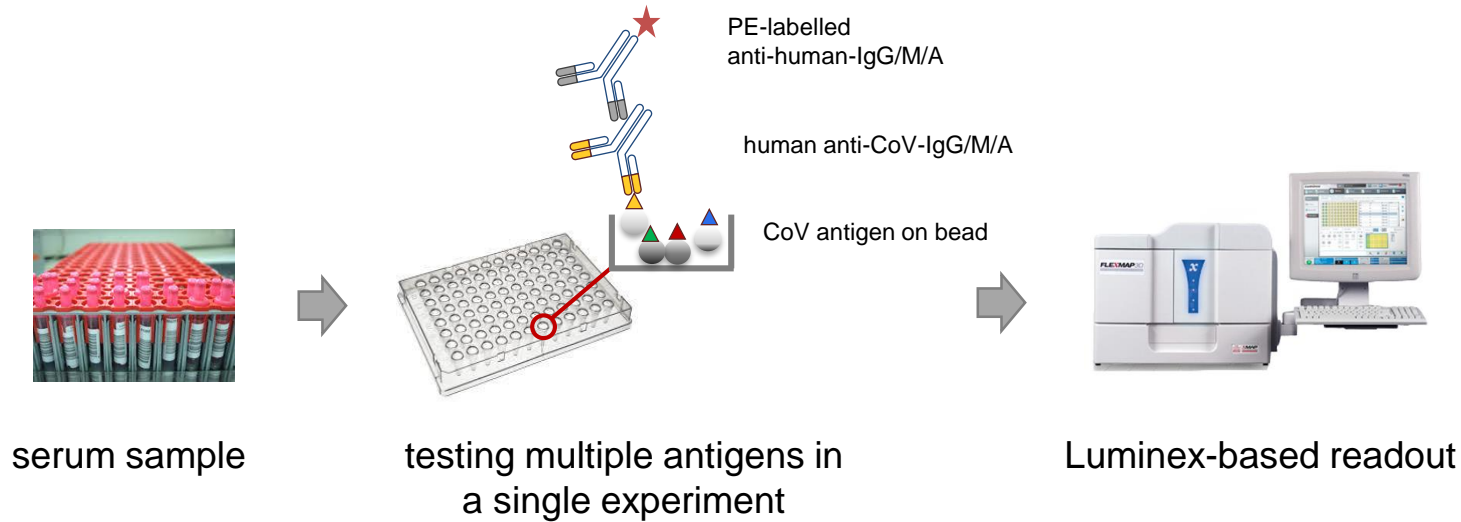




In depth antibody testing to assess sero-prevalence, cross and pre-existing immunity against coronaviruses

**Dr. Nicole Schneiderhan-Marra, NMI Natural and Medical Science Institute
on behalf of the CORESMA team**

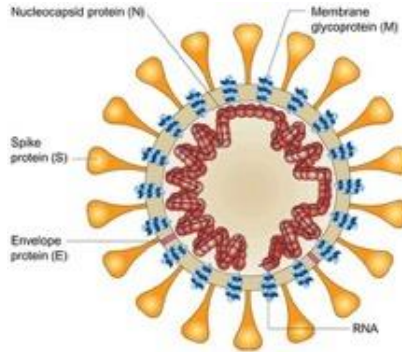
Multiplex testing for immune responses



- flexibel antigen selection adjustable to specific project requirements
- reduced antigen / reagent consumption
- high throughput processing – 1,500 samples per day

Antigenes for Corona virus multiplex test

- 17 Corona virus proteins within the multiplex test
- Expansion of test panel by pathogen-specific antigens causing respiratory tract infections



SARS-CoV-2

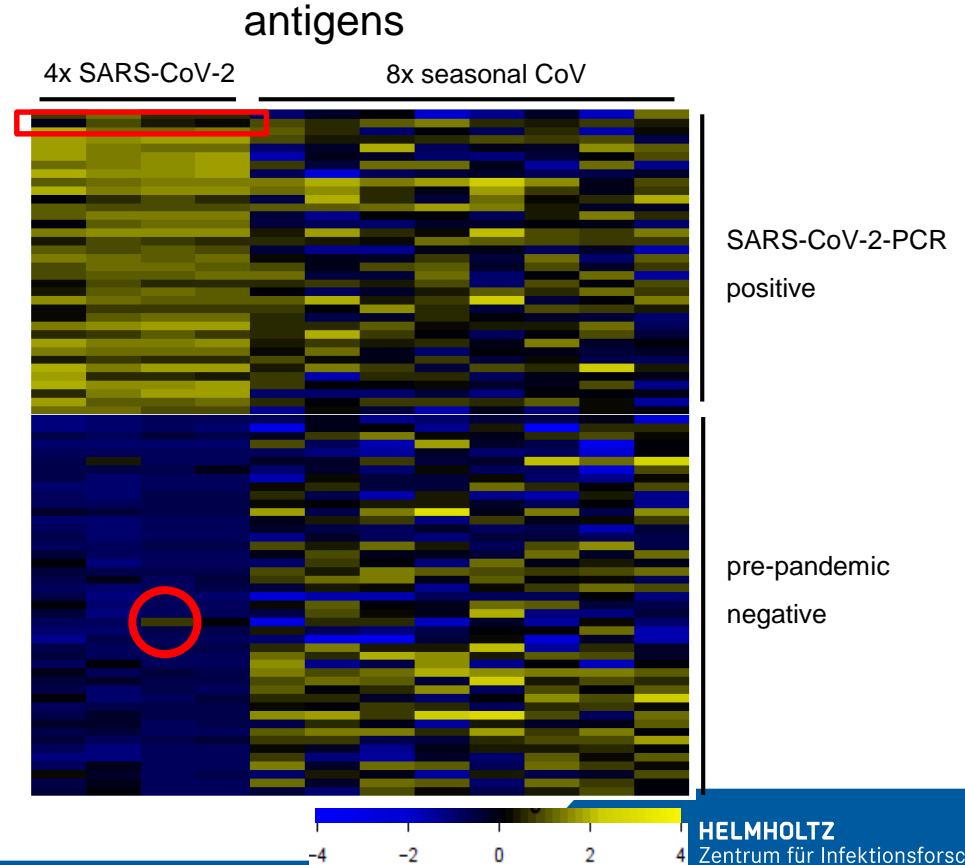
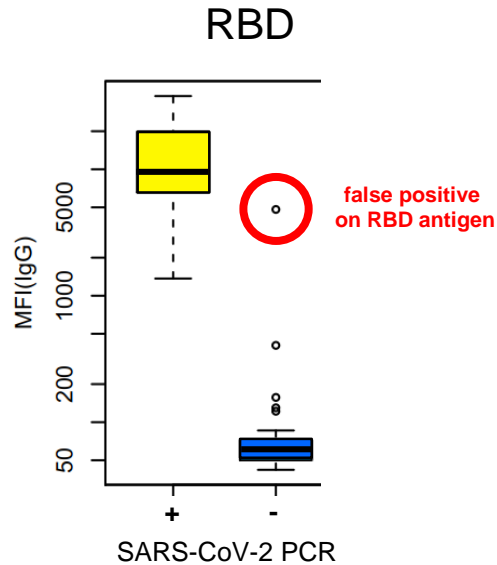
- trimeric spike
- S1 domain
- S2 domain
- RBD
- nucleocapsid
- N-NTD

seasonal coronaviruses

OC43, HKU1, NL63, 229E

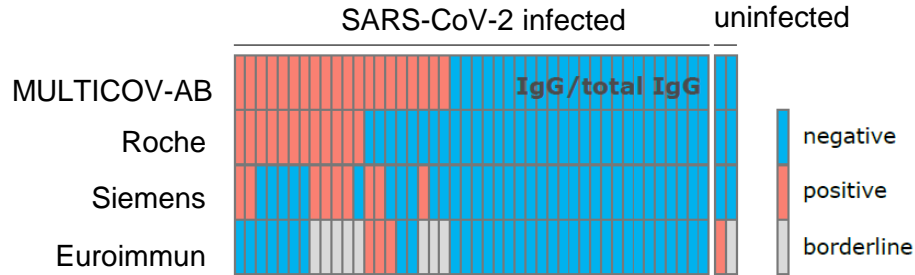
- S1 domain
- nucleocapsid
- N-NTD

Multiplex testing shows complexity of Corona virus antibody response



MULTICOV-AB outperforms commercial assays

- 204 samples from self-reported SARS-CoV-2 infected individuals
- 86 samples from uninfected individuals (partially pre-pandemic)
- Samples with differing classification are depicted



doi.org/10.1101/2020.07.17.20156000

MULTICOV-AB is

- more sensitive than Roche, Siemens and EUROIMMUN
- more specific than EUROIMMUN

“Multiplexing” beyond SARS-CoV-2 seroprevalence studies

- ✿ Is there a pre-existing immunity in the population?
 - ✿ Do specific antibodies correlate with severity of COVID-19 disease?
 - ✿ Are there protective antibodies?
 - ✿ Successful vaccination?
 - ✿ Which respiratory tract infection dominates the next flu seasons?
- ✿ Correlation of seasonal to SARS-CoV-2 - antibody responses
 - ✿ Analysis of antibody iso- and subtype profiles
 - ✿ Characterisation of spike-antibodies
Correlation to PRNT
 - ✿ Differentiate antibody response after vaccination to infection
 - ✿ Flexible expansion of antigen panel e.g. influenza virus

We offer...

- Screening services
- Assay transfer
- Assay development

Team Multiplex

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Thanks for your attention!

