

COVID-19 Mass Spectrometry Coalition

National to International Actions



Aims

- To use mass spectrometry to minimise the harm from COVID-19
- To form a coalition of mass spectrometry labs with national points of contact
- To share methods and protocols and all data
- To map the viral antigens in blood and other bio-fluids to inform serological testing
- To assay (QC) compounds produced for serological tests kits
- To use mass spectrometry to inform vaccine and therapeutic developments (mapping viral proteins and their interactions)
- To develop methods to determine disease prognosis
- To develop methods to determine the lifetime of infective particles in the environment.

Agreed Actions

- To work collectively to use MS approaches for Covid19 research
- To share sample collection protocols
- To share sample processing protocols
- To share acquisition protocols
- To make data available and open in community agreed format
- To share best (and less good) practice
- To complement genomic methods with molecular mapping

To be done

- Web presence for protocols
- Web server mirror to USCD for data repository
- Sample collection protocols
- Funding for consortia
- Funding for PoC work with clinical samples.

Recommendation for National
activity

Key people to act as national contact points:-

1. Liaison with clinician teams – research ethics, what is feasible, raw sample storage and transport. Cat3 -> 2
2. Virus structure and biology expertise with mass spectrometry
3. Curation of analytical protocols - how to prepare the sample for MS analysis
4. Mass spectrometry methods – how to run samples, which platforms what experiments, how many labs
5. Data curation – adherence to community standards
6. Liaison for omics track and for targeted whole protein track
7. Liaison with other national actions.

National (UK) Coordination of MS activities for COVID19 Mass Spectrometry Coalition

Sample collection and processing.
Liaison with clinicians research ethics
Clare Mills (UoM)
Deborah Dunn-Walters (Surrey)



Samples
to labs



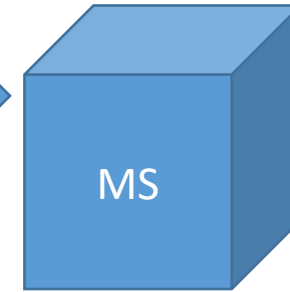
Protocols for sample prep. for MS
Andrew Pitt (Aston)
Milena Quaglia (LGC Ltd.)



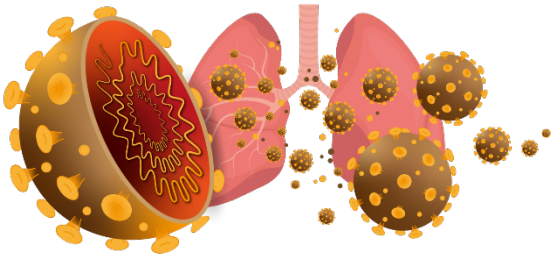
Processed samples
To MS



**Protocols for acquisition
and data processing**
Peter O'Connor (Warwick)
Melanie Bailey (Surrey)



Virus structure and interactions
Virus MS methods
Ed Emmott (UoL)
Weston Struwe (Oxford)



**Consortia management and
Liaison with international groups**
Perdi Barran (UoM)
Frank Sobott (Leeds)

Data Curation and
Data to open servers



**Open data repository
Community standards**
Kostas Thalassinou (UCL)
Drupad Trivedi (UoM)

Coordination Omics track Claire Eyers, Paul Skipp, Trost Lab
Coordination Native and Standards track Perdi Barran ??

International Points of Contact (put email and affiliation)

- UK - Perdi Barran & Frank Sobott
- Germany - Andrea Sinz, Charlotte Uetrecht
- Spain - Fernando J. Corrales, Marta Vilaseca
- Italy –
- France
- USA