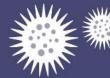


The Relevance of a Virus Collection to the Scientific Community

Ellie J Drinkwater, NCPV Virologist ellie.drinkwater@phe.gov.uk culturecollections.ncpv@phe.gov.uk



NCPV National Collection of Pathogenic Viruses

The National Collection of Pathogenic Viruses (NCPV) supplies pathogenic mammalian viruses to scientists around the globe. These are used, for example, in vaccine research or drug development. Our main remit is supplying Hazard Group 2 and 3 viruses, which is of great benefit to the scientific community due to our:

- 1. Authenticated viruses (including as a deposit for patents)
- 2. Shipping of restricted goods
- 3. 20+ years rich history!
- 4. Experienced staff

Riboviria > Orthornavirae > Pisuviricota > Pisoniviricetes > Nidovirales > Coronaviridae

1: Authenticated viruses e.g. coronaviruses and zika virus:

During the pandemic, HCoV-299E was already present within the NCPV catalogue and the increase in demand for this strain grew, demonstrating the value of culture collections and the importance of housing historical strains. NCPV responded by restocking HCoV-299E and SARS-CoV-1, and adding HCoV-OC43 and -NL63 to the collection.

Five years ago, a similar situation happened with Zika virus:

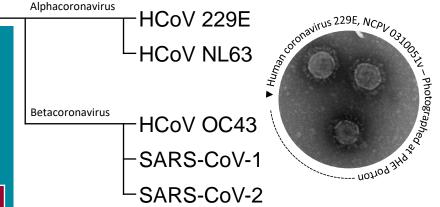
J 2015	F	Μ	Α	Μ	J	J	Α	S	0	Ν		J	F	Μ	
ро	tients sitive V in B	for		Reported on ProMed; NCPV starts banking ZIKV (in our collection since 2013!)						World Health Voganization issues PHEIC 1 st bank exhausted, 2 new banks grown and available					

2: Shipping of high-consequence pathogens:

NCPV has Hazard Group 2 and 3 isolates in the collection, Specified Animal Pathogens Order (SAPO) isolates, and organisms that fall under Schedule 5 of the Anti-terrorism, Crime and Security Act (2001). We take great care shipping and, compliant with Dangerous Goods regulations (ADR and IATA), are able to consign these goods worldwide.

3: NCPV's **20-plus years** (as we were established in 1999!) gives NCPV a centralised history, and as such is a resource for advice, troubleshooting, and a place to compare and optimise culture conditions – all to the benefit of the scientific community.

4: Helping PHE's COVID-19 response show-cased the experience of our staff. In early 2020 we pivoted and began directing our resources to support Public Health England's outbreak response. Our equipment and reagents were donated to the outbreak response, and all staff in NCPV contributed to SARS-CoV-2 research and surveillance, whether through advice on methods and safety, performing PCRs and ELISAs, or vaccine and drug candidate research.



▲ Cladogram of SARS and human coronaviruses (HCoV). SARS-CoV-1 and HCoVs 229E, NL63, and OC43 are available from NCPV.

