# SARS-CoV-2 (COVID-19) Research Laboratory Biosafety Guidelines

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<th>Research Activities with Known or Likely Infected Specimens from Humans or Animal Models</th>
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| • Storage and laboratory work with seed stocks, working stocks or specimens\(^1\) with the intent to grow or use live virus at UChicago.  
  - Virus isolation, characterization and/or expansion  
  - Viral cultures or isolates should be transported as Category A, UN2814, “infectious substance, affecting humans”\(^2\)  
• Use of live SARS-CoV-2 virus in functional assays:  
  - Plaque/Focus Forming Unit assays  
  - Serologic virus capture/binding assays  
  - Therapeutic MIC assays  
  - Live cell sorting with intact virus  
• Use of live SARS-CoV-2 virus in animal processing, aliquoting or preparing specimens\(^1\) for research use and storage  
• Preparation of chemical- or heat-fixed specimens\(^1\) for microscopic analysis  
• Nucleic acid extraction of specimens\(^1\) for molecular analysis  
• Preparation of inactivated specimens for other laboratory assessments  
• Performing diagnostic tests (e.g. serology) that do not involve activities with the potential to propagate virus  
• Inoculating bacterial or mycological culture media | BSL-3/ABSL\(^3\)³ | Joseph Kanabrocki, Ph.D., CBSP  
Associate Vice President for Research Safety,  
Select Agent Responsible Official  
Office of Research Safety  
Phone: 773-834-2707  
jkanabro@bsd.uchicago.edu  
https://researchsafety.uchicago.edu/  
https://htrl.uchicago.edu/ |
| • Molecular analysis of already extracted nucleic acid preparations  
• Analysis of specimens\(^1\) that have been inactivated by a method approved by the Office of Research Safety.  
• Final packaging of specimens\(^1\) already in a sealed, decontaminated primary container for transport to collaborating laboratories for additional analyses  
  - Specimens from suspected or confirmed cases should be transported as UN3373, “Biological Substance, Category B”  
• Pathologic/microscopic examination of fixed specimens\(^1\) (e.g. formalin-fixed tissues or glutaraldehyde-fixed grids).  
• Routine staining and microscopic analysis of fixed smears  
• Routine examination of bacterial and mycotic cultures | BSL-2 with enhancements\(^4\) | John Bivona, RBP  
Senior Biological Safety Officer, Select Agent  
Alternate Responsible Official  
Office of Research Safety, Howard T. Ricketts Lab  
Phone: 630-252-1742  
jbivona@uchicago.edu |

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\(^1\) Specimens are defined as, but not limited to, blood, serum, plasma, tissues, feces, urine, sputum, mucosal swabs or washes/secretions collected from any species.

\(^2\) For assistance with required import permits and export licenses contact University of Chicago’s Export Control Compliance Manager (dsanchezr@uchicago.edu, 773-702-8601).

\(^3\) Animal Biosafety Level-3 (ABSL-3)

\(^4\) Required Enhancements to standard BSL-2:

- Any procedure with the potential to generate aerosols or droplets (e.g. vortexing, cell sorting, ELISA plate washing) will be performed in a certified Class II Biological Safety Cabinet (BSC). BSC must be decontaminated with an EPA approved disinfectant for coronavirus.
- Personnel will wear a closed front gown, face shield and double pair of gloves, or similar PPE base on availability to protect mucous membranes from exposure.
- Centrifugation of specimens must be performed using sealed centrifuge rotors or sample cups.
- The use of sharps should be eliminated wherever possible.

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*Please note that all proposed research with SARS-CoV-2 (COVID-19) requires review by the Office of Research Safety and will require approval of a Standard Operating Procedure (SOP) for the research. In addition, some research will also require approval by the Institutional Biosafety Committee (IBC), which will be coordinated by the Office of Research Safety, researchsafety@uchicago.edu*