Coronavirus Biology, Handling, Safety and Diagnostic Methods

Coronavirus Sample Handling and Bio-Safety

JoVE Science Education: Clinical Skills
- COVID-19 / Coronavirus Outbreak: Donning and Doffing Personal Protective Equipment (PPE) for Healthcare Providers
- COVID-19 / Coronavirus Outbreak: Performing a Nasal Swab Test on Patients inside a Rapidly Deployable Facility Optimized for Epidemics
- COVID-19 / Coronavirus Outbreak: Guidance for Hand Hygiene for Healthcare Providers to Ensure a Safe and Healthy Environment
- COVID-19 / Coronavirus Outbreak: A Rapidly Deployable Medical Facility Optimized for Epidemics (Smart Pod)

JoVE Journal: Medicine
- Remote Laboratory Management: Respiratory Virus Diagnostics

Immunology

JoVE Core Chapter 24
- Chapter 24: Immune System

JoVE Journal: Immunology & Infection
- Injections of Lipopolysaccharide into Mice to Mimic Entrance of Microbial-derived Products After Intestinal Barrier Breach

Coronavirus Diagnostic Methods

JoVE Science Education: Basic Biology
- The ELISA Method
- PCR: The Polymerase Chain Reaction
JoVE Journal: Medicine

- Unbiased Deep Sequencing of RNA Viruses from Clinical Samples

JoVE Journal: Biochemistry

- A Fluorogenic Peptide Cleavage Assay to Screen for Proteolytic Activity: Applications for coronavirus spike protein activation

JoVE Journal: Biology

- Detection of Viral RNA by Fluorescence in situ Hybridization (FISH)
- Titration of Human Coronaviruses Using an Immunoperoxidase Assay
- Purifying the Impure: Sequencing Metagenomes and Metatranscriptomes from Complex Animal-associated Samples

JoVE Journal: Immunology & Infection

- Pan-lyssavirus Real Time RT-PCR for Rabies Diagnosis
- Production of Pseudotyped Particles to Study Highly Pathogenic Coronaviruses in a Biosafety Level 2 Setting
- Analysis of Group IV Viral SSHHPS Using In Vitro and In Silico Methods
- Viral Concentration Determination Through Plaque Assays: Using Traditional and Novel Overlay Systems
- Early Viral Entry Assays for the Identification and Evaluation of Antiviral Compounds
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- Rescue of Recombinant Zika Virus from a Bacterial Artificial Chromosome cDNA Clone
- Production of Pseudotyped Particles to Study Highly Pathogenic Coronaviruses in a Biosafety Level 2 Setting
- Processing of Bronchoalveolar Lavage Fluid and Matched Blood for Alveolar Macrophage and CD4+ T-cell Immunophenotyping and HIV Reservoir Assessment
- Development and Validation of a Quantitative PCR Method for Equid Herpesvirus-2 Diagnostics in Respiratory Fluids
- High-throughput Detection Method for Influenza Virus
• Early Viral Entry Assays for the Identification and Evaluation of Antiviral Compounds