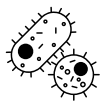


The following is general information for those involved in the laboratory-based research of vaccinia.
Contact occupational.health@cuanschutz.edu if you have any questions.

ABOUT VACCINIA VIRUS



Vaccinia is a complex, enveloped virus belonging to the poxvirus family. Vaccinia virus (VACV) is the live viral component of smallpox vaccine. Inadvertent exposure to VACV can result in infection, and severe complications can occur in persons with underlying risk factors (e.g., pregnancy, immunodeficiency, or certain dermatologic conditions).

EXPOSURE TO VACCINIA VIRUS

- Accidental exposure to vaccinia may occur through
 - Ingestion
 - Needle Stick
 - Droplet or aerosol exposure of mucous membranes or broken skin with infectious particles
 - Ocular exposure is of particular concern
- Different strains of vaccinia virus used in research present different levels of risk (see *Table 1*)

VACCINIA VIRUS INFECTION

- Mild and typically asymptomatic in healthy individuals
 - May cause a mild rash and fever
- Symptoms seen rarely and usually in immunocompromised individuals
 - Severe rash (can leave scars when healed)
 - High fever
 - Tiredness
 - Severe headaches and backache
 - Blindness
 - Death
- Symptoms typically appear in 6 to 15 days after exposure
- Treatment for vaccinia includes antivirals and pain medication

VACCINATION FOR VACCINIA WORK



- The Advisory Committee on Immunization Practices (ACIP) recommendation:
 - Smallpox vaccination at least every 10 years for personnel who handle non-highly attenuated VACV strains
 - Jynneos
 - ACAM2000
 - See *Table 1* for more information on vaccine recommendations

VACCINIA EXPOSURE SAFETY

Follow proper exposure reporting protocols

- If you are injured on the job, promptly report the incident to your supervisor
 - Immediately call or email Occupational Health (303) 724-9145 during business hours
 - Outside of normal hours seek medical attention at emergency department or other healthcare provider
 - Fill out incident report for exposure to biological hazards
 - File a claim with University Risk Management
 - <https://www.cu.edu/risk/file-claim>
- Minor cuts and abrasions should be immediately cleansed with antibacterial soap
 - Protect injuries from exposure

Tell your physician you work with vaccinia

- Whenever you are ill, mention to your physician that you work with vaccinia

PPE FOR VACCINIA



- Do not reuse personal protective equipment (PPE) used for work with biohazards
 - Dispose of all PPE as biohazardous waste
- Always wash your hands after removing gloves and after handling biohazards
 - See *Table 1* for more PPE information

CONTROLS FOR VACCINIA

- Additional protections for procedures likely to produce droplets or aerosols
 - Utilize biosafety cabinets
 - Additional precautions such as centrifuge safety cups, sealed centrifuge rotors

Table 1. Personal protective equipment requirements for working with vaccinia virus

Strain	BSL-1 PPE Lab coat with closed cuffs, gloves, long pants/skirt/dress, eye protection	BSL-2 PPE Surgical mask, lab coat with closed cuffs, gloves, long pants/skirt/dress, eye protection	Vaccine recommended every 10 years
Non-highly attenuated vaccinia strains			
Western Reserve		X	X
New York City Board of Health		X	X
Copenhagen		X	X
Temple of Heaven		X	X
Lister		X	X
Derivatives of any of the above strains		X	X
Highly attenuated vaccinia strains			
MVA2		X	
NYVAC	X		
TROVAC	X		

For more information, refer to the Occupational Health website:
<https://research.cuanschutz.edu/ehs/home/divisions/occupational-health>
 or contact Occupational Health at occupational.health@cuanschutz.edu

