**Agent Summary – Herpes Simplex Virus-1 (HSV-1)**

* Herpesviruses have a unique four-layered structure: a core containing the large, double-stranded DNA genome is enclosed by an icosapentahedral capsid which is composed of capsomers. The capsid is surrounded by an amorphous protein coat called the tegument. It is encased in a glycoprotein-bearing lipid bilayer envelope.
* Herpesviruses are divided into three groups:
* α herpesviruses: herpes simplex virus-1 (HSV-1), HSV-2 and varicella-zoster virus (VZV), have a short replicative cycle, induce cytopathologyin monolayer cellcultures, and have a broad host range;
* β herpesviruses: cytomegalovirus (HCMV), and human herpesviruses [HHV] 6 and 7, with a long replicative cycle and restricted host range;
*  herpesviruses: Epstein Barr virus (EBV), and human herpesviruses [HHV] 8, with a very restricted host range.
* HSV-1 is a highly contagious infection that is common and endemic throughout the world. Most HSV-1 infections are acquired during childhood, and infection is lifelong. The vast majority of HSV-1 infections are oral herpes (infections in or around the mouth, sometimes called orolabial, oral-labial or oral-facial herpes), but a proportion of HSV-1 infections are genital herpes (infections in the genital or anal area). The herpesviruses are commonly present in a variety of clinical materials submitted for virus isolation.
* Oral herpes infection is mostly asymptomatic, and most people with HSV-1 infection are unaware they are infected. Symptoms of oral herpes include painful blisters or open sores called ulcers in or around the mouth. Sores on the lips are commonly referred to as “cold sores.” After initial infection, the blisters or ulcers can periodically recur.
* Genital herpes caused by HSV-1 can be asymptomatic or can have mild symptoms that go unrecognized. When symptoms do occur, genital herpes is characterized by 1 one or more genital or anal blisters or ulcers. After an initial genital herpes episode, which may can be severe, symptoms may recur.
* Mode of transmission: HSV-1 is mainly transmitted by oral-to-oral contact to cause oral herpes infection, via contact with the HSV-1 virus in sores, saliva, and surfaces in or around the mouth. However, HSV-1 can also be transmitted to the genital area through oral-genital contact to cause genital herpes. Individuals who already have HSV-1 oral herpes infection are unlikely to be subsequently infected with HSV-1 in the genital area.
* HSV-1 requires biosafety level 2 containment (BSL2). Infected animals require ABSL2 containment.
* Use personal protective equipment (PPE) as described in the associated SOP 2.0.

**Reference:**

1. [*Biosafety in Microbiological and Biomedical Laboratories*, 6th edition. U.S. Department of Health and Human Services; CDC](https://www.cdc.gov/labs/pdf/SF__19_308133-A_BMBL6_00-BOOK-WEB-final-3.pdf)  (BMBL6)
2. <https://www.ncbi.nlm.nih.gov/books/NBK8157/>
3. <https://www.who.int/news-room/fact-sheets/detail/herpes-simplex-virus#hsv1>

Enter the following information:

1. Name of the Principal Investigator: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Applicable IBC protocol number(s) (approved or submitted): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. List the laboratory work locations (Building/room[s]) for HSV-1, a BSL2 agent:

* Procedures:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and Storage: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. List the animal facility building/room(s) for HSV-1 , ABSL2 containment:

* Procedures:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and Housing:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\*Note: confirm with ULAR that the rooms listed above are suitable for ABSL2 animals.

Date of Agent Summary form completion: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_