PINMOORE ANIMAL LABORATORY SERVICES
THE COACH HOUSE, TOWN HOUSE BARN,
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Primates

Alpha Herpes Virus

Alpha Herpes Virus (Herpesvirus simiae, Cercopithecine herpesvirus1) is a virus which occurs naturally in Macaque monkeys and possibly other old world monkeys. Infection with the Alpha Herpes Virus produces a very mild disease in monkeys and some can show no obvious evidence of infection. Some monkeys may show vesicles (small blisters) which can lead on to mouth ulcers, facial, genital and eye lesions.

The lesions heal spontaneously after a few days but the virus resides permanently in the monkey and can periodically be reactivated and cause more ulcerative lesions. These relapses are more common when the monkey is “stressed”, they look similar to ‘cold sores’ found in humans. The virus is obviously shed into the environment where lesions are present, but can also be shed by monkeys with no visible lesions or symptoms. Transmission to humans can occur by exposure to infected monkey saliva, secretions or tissues. Common routes of transmission are usually bites, scratches or splashes. Human infection with this virus is often fatal and further human to human infection has been documented. An antibody test is available to test for Alpha Herpes Virus, the sample required is serum not from a gel tube.

Simian Immunodeficiency Virus (SIV)

SIV is a retrovirus that can be found in numerous strains in primates. The specific strains infecting humans are HIV-1 and HIV-2, the viruses that cause AIDS.

The origin of HIV is now generally attributed to SIV, originally from African primates.

HIV-2 is most closely related to the SIV strain that primarily infects Sooty Mangabeys, whilst HIV-1 is closely related to the chimpanzee strain of SIV. The most likely route of transmission to humans was thought to be from the blood of chimps, often hunted for bushmeat in Africa.

SIV monkey strains are transmitted sexually and usually do not cause AIDS in their natural hosts. SIV strains may cause an AIDS like immune deficiency (Simian acquired immunodeficiency syndrome) if they cross species boundaries.

The monkey SIV strains do not infect humans and HIV-1 does not infect monkeys, this is due to an intracellular protein which has different variants in humans and monkeys, which recognize the capsid of various retroviruses and blocks their reproduction. However, researchers have created various HIV-SIV chimeras, which are referred to as SHIV. An antibody test is available to test for SIV, the sample required is serum not from a gel tube.

Simian Foamy Virus (SFV)

Simian Foamy Virus is a spumavirus closely related to the Human Immunodeficiency virus (HIV). Foamy viruses are a family of retroviruses commonly found in primates (monkeys, chimpanzees, baboons and macaques) and also in cows, cats and other animals.

Retroviruses have RNA, rather than DNA, as their genetic material. When a retrovirus infects a cell, its genome is incorporated into the DNA of the host cell, which ultimately leads to production of many more viruses.

SFV is the type of foamy virus found in non human primates and it is thought that about 80% of non human primates born in captivity have SFV. However, animals with SFV do not become ill or display any symptoms, but recent studies show that this may make the animal more predisposed to catching other viruses if they carry SFV.

SFV causes cells to fuse with each other to form syncythia and on a slide look like foamy bubbles, hence its name. An antibody test is available for Foamy virus, the sample required is serum not from a gel tube.

Simian Retrovirus Type D (SRV-D)

Simian Retrovirus Type D infects and causes an immunosuppressive disease in captive and wild macaque monkeys. The overall prevalence of this virus is about 5-7% and the mortality rate about 30-50%. Direct contact between infected and susceptible animals or direct parental exposure to infectious blood or tissue is the main transmission route. Since inapparent carriers have been reported (virus + antibody -), serology for antibody alone may not always determine a complete SRV status. An antibody test is available to test for SRV-D, the sample required is serum not from a gel tube.

Simian T Lymphotropic virus (STLV-1)

STLV is closely related to the human HTLV 1 virus. The clinical, haematological and histopathological characteristics of this disease in infected monkeys are very similar to those of adult human T-cell leukemia. This disease in mostly associated with African Green Monkeys and Asian Rhesus Macaques. An antibody test is available for STLV-1, the sample required is serum not from a gel tube.

Hepatitis

Hepatitis A Both humans and non human primates have been found to be a reservoir for this virus and infection may be inapparent. Transmission is by the faecal/oral route and several cases of primate to human infection have been reported.

Hepatitis B There are six well characterized genotypes (A-F) of human Hepatitis B virus that have distinct geographic ranges which generally relate to chronic HBV infection, also recently a genotype G has been discovered. Hepatitis B has been found in all the Old World Great Apes (Orangutans, Gibbons, Gorillas and Chimpanzees) and from a New World Woolly Monkey. The Hepatitis B virus is highly infectious and is carried in all bodily fluids. Incubation period is 6 weeks to 6 months. Clinical signs include anorexia, fever, sickness, jaundice and skin rashes.

Hepatitis C Spontaneous infections in primates have not been readily reported, but they can be infected experimentally and further emergence is to be expected.

Note: Human vaccination against Hepatitis A and Hepatitis B is readily available and should be taken up by all people in regular contact with primates.

Tests available for Hepatitis are:

Hepatitis A antibody test

Hepatitis B antigen test - diagnostic

Hepatitis B antibody test - post vaccination

Hepatitis C antibody test

Hepatitis E antibody test

All Hepatitis tests require serum not from a gel tube.

Lymphocytic Choriomeningitis Virus (LCMV)

The Lymphocytic Choriomeningitis Virus is carried by rodents such as hamsters, guinea pigs or mice. Any individual who comes into contact with urine, faeces or saliva of an infected rodent are potentially at risk. Symptoms are similar to those of influenza. Fever, stiff neck, lack of appetite, muscle aches, headache, nausea and vomiting occur 1-2 weeks after exposure. An antibody test is available for LCMV, the sample required is serum not from a gel tube.

Protozoan infection

Giardia, Trichomonas, Balantidium and Entamoeba are all common protozoan infections seen in Primates.

Diagnosis of the above can be confirmed in faecal flotations.

Nematode Infection

Strongyloides and Trichuris are commonly seen in Primates.

Diagnosis of the above can be confirmed in faecal flotations.

Faecal Bacteria Infections

Yersinia, Shigella, Salmonella and Campylobacter are commonly seen in Primates.

Yersinia is more prevalent in autumn, the source of infection is usually via foodstuffs contaminated by wild birds or rodents.

Diagnosis of the above can be confirmed via faecal culture.

Post Mortems

Post Mortems are undertaken on most primates, please contact the laboratory for instructions prior to sending.

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