McMaster University
Medical Monitoring Program Information Sheet

The purpose of this document is to provide information on an agent/virus in order for all McMaster University staff and students to make an informed decision about entering our medical monitoring program.

Please review, sign the bottom of the document and retain for supervisor records.

Simian Virus 40 (SV 40)

The following summary is provided by the McMaster Biosafety Office.

For a complete copy of the excerpted text below please refer to: 

References


No firm link has established SV40 as a cause of human cancer, although SV40 Tag sequences have been found associated with several tumour types.

Studies suggest that SV40 may be contagiously transmitted in humans by horizontal infection. In humans, SV40 has been found associated at high prevalence with specific tumour types such as brain and bone tumours, mesotheliomas and lymphomas and with kidney diseases. SV40 was observed to cause animal and human cell transformations in culture

Lednicky JA, et al. 2001 described the characteristics of Tag. (large and small T. antigen of SV40) which may cause normal cells to transform into cancer cells. Expression of Tag, the SV40 oncoprotein, has been observed in some tumours. Butel JS. 2000

Safety Precautions

BSL 2 precautions for space, protocols and personal protection should be used.
The following summary is provided by Employee Health Services.

For a complete copy of the excerpted text below please refer to:
http://www.cdc.gov/vaccinesafety/updates/archive/polio_and_cancer.htm

**Facts**

Simian virus 40, or SV40, was discovered in 1960. It occurs naturally in some species of monkeys, though it does not typically cause symptoms or illness except in cases where the animal has chronic problems with its immune system (Shah and Nathanson, 1976). In those cases, the animals develop lesions associated with SV40 in their kidneys and brains (Newman et al., 1998).

SV40 is not related to HIV, the virus that causes AIDS in humans, or to simian immunodeficiency virus (SIV), the virus that causes an AIDS-like disease in some monkey species.

Interest in SV40 has increased in the last several years because the virus was found in certain forms of cancer in humans, for instance mesotheliomas (rare tumors located in the lungs), brain, and bone tumors (Carbone et al., 1994; Jasani et al., 2001). More recently, SV40 has also been found to be associated with some types of non-Hodgkin's lymphoma (Shivapurkar et al., 2002; Vilchez et al., 2002).

No firm link has established SV40 as a cause of human cancer, although SV40 Tag sequences have been found associated with several tumour types. As in the July 2000 report, more recently published studies continue to show no evidence of a significant increase in rates of cancer. The previous report notes that in hamsters, differences may be seen due to routes of infection, virus dose, age at infection, and influences of other factors including chemical, physical, environmental or other viral elements. The impact of these effects is still not clear in humans.

Continued research into SV40 will continue to be important as SV40 may yet prove to be a cofactor in the development of certain types of cancers.

It is presumed that the virus is being transmitted among humans, but it is not known if this transmission was occurring prior to the use of polio vaccine in the late 1950's and early 1960's, or was a result of its use. No study has satisfactorily confirmed whether SV40 found in the human population is from contaminated polio vaccine, or from some other source, and epidemiological studies to date have not determined whether SV40-contaminated polio vaccine did or did not cause cancer in the recipients of vaccine.
Memorandum of Understanding and Agreement (“MUA”) for BSL2 Medical Monitoring Program

Note: This MUA is to be signed by the employee/student and supervisor, filed and kept by the supervisor. It will be reviewed during the annual biosafety audit by the McMaster Biosafety office.

The employee/student named below acknowledges and agrees as follows:

- I have read and understand all of the information in this Medical Monitoring Information Sheet provided jointly by the McMaster Biosafety Office and Employee Health Services and reviewed the biologically hazardous agent to which I have potential exposure. **Initial here**

- I will report a pregnancy or a compromised immune system (due to medication {steroid or other immunosuppressive therapy}, organ transplant, chemotherapy or radiation therapy, HIV infection etc.) to my supervisor and **X (graduate students)** or Employee Health Services Occupational Health Nurse at ext. 20310 (faculty and staff) **Initial here**

- I will report an exposure to a biological agent to my supervisor immediately and complete a McMaster incident/accident report. **Initial here**

- I will report any illness that resembles the symptoms listed in this Medical Monitoring Information Sheet to my supervisor. **Initial here**

- I recognize my responsibility to observe all safety practices and precautions while present in the BSL2 laboratory. **Initial here**

- I am aware of, and wish to participate in, the medical monitoring program (RMM #605) for this biological level 2 agent. Please circle: [yes] [no] **Initial here**

Employee/Student print name: ___________________________  Supervisor print name: ___________________________

Signature: ___________________________  Signature: ___________________________

Date: ___________________________  Date: ___________________________