

Serological Screening of Barrier Maintained Rodent Colony

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Abstract : The health screening of laboratory rodents is essential for ensuring animal health and the validity of biomedical research data. Routine health monitoring is necessary to verify the effectiveness of biosecurity and the specific pathogen free (SPF) status of the colony. The present screening was performed in barrier maintained rat (*Rattus norvegicus*) colony. Rats were maintained under a controlled environment and strict biosecurity in the facility. The screening was performed on quarterly bases from randomly selected animals from breeding and or maintenance colonies. Selected animals were subject to blood collection under isoflurane anaesthesia. Serum was separated from the collected blood and stored samples at -60 ± 10 °C until further use. A total of 88 samples were collected quarterly bases from animals in a year. In the serological test, enzyme-linked immunosorbent assay (ELISA) was used for screening of serum samples against sialodacryoadenitis virus (SDAV), Sendai virus (SV), and Kilham's rat virus (KRV). ELISA kits were procured from XpressBio, USA. Test serum samples were run along with positive control, negative control serum in 96 well ELISA plates as per the procedure recommended by the vendor. Test ELISA plate reading was taken in the microplate reader. This screening observed that none of the samples was observed positive for the sialodacryoadenitis virus (SDAV), Sendai virus (SV), and Kilham's rat virus (KRV), indicating that effectiveness of biosecurity practices followed in the rodent colony. The result of serological screening helps us to declare that our rodent colony is specifically pathogen free for these pathogens.

Keywords : biosecurity, ELISA, specific pathogen free, serological screening, serum

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