mice, and hDPP4-Tg mice (transgenic for expressing hDPP4) for MERS-CoV infection (221). The CRISPR-Cas9 gene-editing tool has been used for inserting genomic alterations in mice, making them susceptible to MERS-CoV infection (222). Efforts are under way to recognize suitable animal models for SARS-CoV-2/COVID-19, identify the receptor affinity of this virus, study pathology in experimental animal models, and explore virus-specific immune responses and protection studies, which together would increase the pace of efforts being made for developing potent vaccines and drugs to counter this emerging virus. Cell lines, such as monkey epithelial cell lines (LLC-MK2 and Vero-B4), goat lung cells, alpaca kidney cells, dromedary umbilical cord cells, and advanced ex vivo three-dimensional tracheobronchial tissue, have been exposed to study human CoVs (MERS-CoV) (223, 224). Vero and Huh-7 cells (human liver cancer cells) have been used for isolating SARS-CoV-2 (194).

Recently, an experimental study with shrews as animal models revealed the absence of any viral loads in nasopharyngeal and anal swabs, and no viral replication was recorded in the primary tissues after a time interval of 5 days post-reinfection to exposed monkeys (274). The subsequent virological, radiological, and pathological