紫外線傳遞箱病原去活化效能確效

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摘要

紫外線傳遞箱為現行生物安全管控試驗設施最普遍使用之設備，為探討紫外線傳遞箱內之紫外線燈管照射時間及距離等是否會影響其病原去活化效果，分別選用豬胸膜肺炎放線桿菌 (*Actinobacillus pleuropneumonia*) 及豬瘟病毒 (classical swine fever virus) 兩種高風險病原微生物做為評估標的，以確保使用紫外線傳遞箱可達到病原去活化之目的。將評估標的擺放傳遞箱中距離紫外燈 5 公分及 30 公分處進行紫外線病原去活化功能確效試驗，結果顯示紫外燈之病原去活化效果與其照射時間及距離光源的遠近具有相關性，距離紫外燈越近，所需病原去活化時間越短，此結果可作為獸醫基因改造產品動物試驗設施修正設施內物品進出消毒確效流程之參考依據。

The verification of the pathogen inactivation efficacy of the Ultraviolet pass box

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Abstract

The ultraviolet (UV) pass box is the most commonly used equipment in the biosecurity protocols within inspection facility clean rooms. To investigate the effect of irradiation time and UV light distance provided by the UV pass box on the efficacy of pathogen inactivation, two high-risk pathogens, *Actinobacillus pleuropneumonia* and classical swine fever virus, were used as control targets. The control targets were placed in the UV pass box at distances 5 cm and 30 cm from the UV lamp and at various time intervals. The results showed that pathogen inactivation was more effective at shorter distances from the UV lamp and that as a result shorter irradiation times were needed for pathogen inactivation at closer distances. These results could provide as a reference for revising disinfection procedures for items entering and exiting the clean room facilities used for the testing of genetically modified veterinary products at AHRI.