

美國 Yerkes 國家非人類靈長類動物研究中心研習與 應用非人類靈長類實驗動物進行生醫研究

製劑研究組

林育如 助理研究員

摘要

由於非人類靈長類動物 (Nonhuman Primate, NHP) 與人類的遺傳基源最相近，因而 NHP 是支持生醫研究從基因醫學研究、臨床前研究到人體臨床研究的重要動物模式。為培育台灣靈長類實驗動物的人才，國科會責成國家實驗研究院實驗動物中心承辦「靈長類實驗動物人才培育計畫」，家畜衛生試驗所 (畜衛所) 先後派遣二位同仁至美國 Emory 大學的 Yerkes 國家非人類靈長類動物研究中心 (Yerkes National Primate Research Center, YNPRC)，接受為期三個月的靈長類實驗動物相關實務訓練。第一批研修的主題包括有：安全訓練講習，靈長類實驗動物實驗技術，行為管理，飼養管理，繁殖管理，無特定病原族群之建立，臨床疾病防治及健康監測等。畜衛所自 2003 年因 SARS 爆發感染後，承接國科會計畫建立生物安全等級第三級實驗室以供 SARS 疫苗研發，並在國科會經費挹注下建置 NHP 設施。因此希望藉由國外的經驗提升本所以 NHP 作為實驗動物之相關知識與試驗技術，並且協助應用 NHP 於生醫及新藥研發方面之研究。

『應用非人類靈長類實驗動物進行生醫研究』計畫，於 97 年度開始以 Call for Proposal 方式，協助國內其他單位建立以 NHP 在生醫研究及新藥研發應用計畫，期使現有資源達到最好利用率。99 年度在參照 YNPRC 的標準操作步驟，重新修訂本所 NHP 相關作業程序，加強所有工作人員的基礎訓練，以及動物行為觀察，動物訓練等課程。協助臺北榮總神經修復科實驗，制訂個別動物之塑行計畫，以頸圈及保定桿進行馬來猴之保定訓練，並確立 NHP 進行 MRI 照影時的麻醉條件。在年度健康管理上增加口腔清潔項目。另亦更新檢疫舍之基本設施，包括有地板整修，籠具改良及環境豐富化等，以提升 NHP 飼養環境。

Training in Yerkes National Primate Research Center and Biomedical Research on Non-human Primates

Yu-Ju Lin

Abstract

Due to the close genetic relationship between nonhuman primates (NHP) and humans, NHP is the most suitable animal model for testing the safety of new drugs and for studying biomedical research. Two colleagues of Animal Health Research Institute (AHRI) were selected to attend the “Promotion of the Discipline of Nonhuman Primate Research in Taiwan” training program held by The National Laboratory Animal Center National Applied Research Laboratories (NLAC) Taiwan under National Science Council (NSC) support. Both were trained for three months in NHP husbandry and veterinary care at the Yerkes National Primate Research Center (YNPRC) of Emory University in Atlanta, Georgia, United States. This program includes instruction in bio-safety training, clinical/experimental procedures and care, behavioral management module, colony management, SPF colony derivation and management, and animal husbandry. Since the outbreak of SARSV infection in 2003 in Taiwan, AHRI has received support from NSC to construct a bio-safety level 3 (BSL-3) laboratory for the evaluation of SARS vaccine. The knowledge and practice resource of YNPRC would support the improvement the study of NHP in our institute in the future and will also assist other research community to use NHP for biomedical and pharmacokinetic research.

NSC has granted several projects to perform the biomedical research through “Call for proposal” on primate to promote the use of NHP resources since 2007. The trained experiences from YNPRC will be also implanted and the standard protocol to fit the regulation of the Association for Assessment and Accreditation of Laboratory Animal Care will be renewed, including husbandry, animal care, training, clinical medicine and research support. The shaping plan of pole and collar handling with *Macaca cyclopis* and anesthesia protocol prior to MRI imaging were set up to cooperate with Taipei Veterans General Hospital (TVGH) to perform the neuron repair study. The oral cavity examination should be included during annual physical examination. Parts of husbandry, including the cage, floor and enrichment devices were repaired and modified to achieve the objectives of good husbandry.