

|          |   |        |             |
|----------|---|--------|-------------|
| • 計畫中文名稱 | 鼻噴微脂粒劑型疫苗之開發研究  |        |             |
| • 計畫英文名稱 | Development of a Novel Liposomal Vaccine for Nasal Spray  |        |             |
| • 系統編號   | PG9507-3187   | • 研究性質 | 應用研究        |
| • 計畫編號   | 95 農科-6.1.5-檢-B1(5)   | • 研究方式 | 委託研究        |
| • 主管機關   | 行政院農業委員會  | • 研究期間 | 9503 ~ 9512 |
| • 執行機構   | 台北醫學大學生物醫學材料所   |        |             |
| • 年度     | 95 年  | • 研究經費 | 690 千元      |
| • 研究領域   | 畜牧獸醫類   |        |             |
| • 研究人員   | 劉得任,鄧明中   |        |             |
| • 中文關鍵字  | --  |        |             |
| • 英文關鍵字  | --  |        |             |
| • 中文摘要   | <p>本研究將利用微脂粒包覆次單位疫苗，以期開發成鼻噴劑型之疫苗。由於傳統疫苗為肌肉注射型，在使用上必須利用獸醫師注射，利用獸醫師注射疫苗，將變成既耗時耗工且存在高危險性之工作。因此，開發新型之鼻噴劑型疫苗，便顯得相當重要且急迫。</p> <p>我們知道，一般鼻噴劑型之動物疫苗，大多必須是活毒；相對於活毒，死毒無法穿透鼻黏膜組織進入體內，因此對於死毒疫苗大多採用注射劑型。微脂粒是利用脂質所做成之仿細胞膜結構之球體，因此它非常容易與細胞融合(fusion)，換句話說，微脂粒可幫助本來不容易穿透鼻黏膜組織之物質(例如死毒抗原)經由黏膜組織進入體內。因此，利用微脂粒將疫苗給包覆起來，利用微脂粒仿細胞膜結構，穿透過微脂粒與鼻黏膜組織並與免疫細胞融合，將疫苗給予傳送進入體內，進而產生抗體，以期達到保護目的。</p>   |        |             |
| • 英文摘要   | <p>The aim of the study is to develop a novel vaccine composed of liposome-encapsulated antigen for nasal spray administration. Conventionally, vaccination has to be carried out by veterinarian via intramuscular route. Once process for vaccination by veterinarian would become very time-consuming. Thus, the more effective routes of administration such as nasalspray have been developed recently. It is well recognized that antigen administration by nasal route with live virus is similar to the route of virusinfection. However, the nasal administration would certainly seem difficult for the inactivated virus through nasal mucosa that is usually preferable to injectingit directly into the body. Liposomes are bilayered phospholipids particles made</p> |        |             |

of phospholipids, which can readily adsorb to most mammalian cells and release antigen. Therefore, the inactivated virus can be delivered through mucosal tissue using liposome technology. The study will apply liposome technique encapsulating antigen in liposomes, rendering soluble antigen particulate, and targeting delivery through nasal mucosa to antigen presenting immune cells and induce antibody response.