

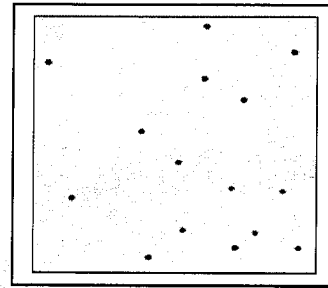


## 禽傳染性支氣管炎病毒蛋白之合成類病毒顆粒作為疫苗

發明人： 陳慧文 助理教授

單位： 國立臺灣大學獸醫學系

簡歷： <https://sites.google.com/site/winnichenlab>



### 市場及需求：

禽傳染性支氣管炎病毒在世界廣泛流行，嚴重影響家禽產業，造成經濟損失。目前市場主要使用的疫苗對於不同型別病毒的保護效果欠佳。活毒滅毒疫苗製備繁瑣、保存不易、且有毒力回歸之風險，而死毒疫苗產生的保護作用有限，製作費用亦相對較高。新型疫苗的發展是控制該疾病的重要環節。因此，禽傳染性支氣管炎病毒蛋白奈米金之類病毒顆粒在疫苗開發中具有發展前景與價值。

### 技術摘要(含成果)：

以禽傳染性支氣管炎病毒蛋白結合奈米金合成之類病毒顆粒，在雞隻的動物實驗中，成功誘導出良好的抗體力價以及細胞免疫效果，在保護實驗中，免疫之雞隻可以成功清除病毒、降低臨床症狀。

### 優勢：

安全性高、免疫效果良好，可大量快速合成、降低成本。

### 競爭產品：

無

### 專利現況：

- (1) 本技術尚未有相關專利。
- (2) 本技術由具有奈米生物材料應用經驗的研究團隊與具有疫苗及免疫機制研究經驗的團隊共同開發，雙方致力於將奈米技術應用於現有的藥物及疫苗製劑，以達到更高的效能和安全性。
- (3) 此技術為本研究團隊獨創，未見於國內外相關專利文獻。

### 聯絡方式(請不用填)：

臺大產學合作總中心

Tel: 02-3366-9945, E-mail: [ntuciac@ntu.edu.tw](mailto:ntuciac@ntu.edu.tw)

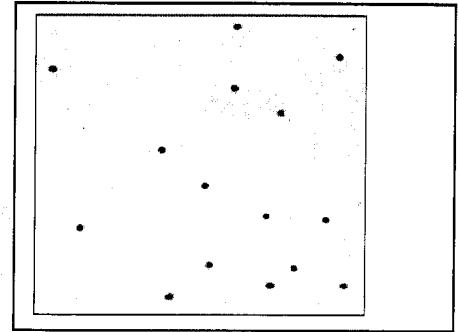


## Synthetic virus-like particle for effective vaccination against infectious bronchitis virus

**PI:** Dr. Hui-Wen Chen  
School of Veterinary Medicine  
National Taiwan University

**Experience:**

<https://sites.google.com/site/winnichenlab/>



**Market Needs:**

Avian infectious bronchitis is an acute, highly contagious disease caused by infectious bronchitis virus (IBV). It is of importance to develop effective vaccines towards disease control and management. Conventional vaccines provided unsatisfactory protection, and the manufacturing process is time-consuming, yet not cost-effective. Thus, the avian infectious bronchitis virus-derived synthetic virus-like particle (sVLP) has great potential in vaccine applications to meet the needs of cost-effective vaccine development.

**Our Technology:**

Avian infectious bronchitis virus spike protein conjugation on gold nanoparticles as a virus-like particle induces great titer of antibody and cellular immunity in a SPF chicken model. In a viral challenge study, sVLP-immunized chickens show rapid viral clearance and negligible clinical signs.

**Strength:**

This sVLP has been proved to be safe and effective in eliciting immune responses in chickens. Also, this sVLP vaccine has advantages of low cost and rapid production.

**Competing Products:**

None

**Intellectual Properties:**

- (1) No related patents have been documented.
- (2) The technique has been developed by collaboration between nanotechnology research group and infection-immunity research group, which collectively focus on novel nanomaterials engineering to improve the infectious disease control.
- (3) Unique technology, not found in the domestic and foreign patent documents.

**Contact (do not need to fill out):**

Center for Industry-Academia Cooperation, NTU  
Tel: 02-3366-9945, E-mail: [ntuciac@ntu.edu.tw](mailto:ntuciac@ntu.edu.tw)

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