

# Professional Service for Adjuvant of Animal Vaccine

1. **Title of Research** : Professional Service for Adjuvant of Animal Vaccine

2. **Cross-School Research and**

## Development Team Members

| Department   | Name           | Position                 |
|--|----------------|--------------------------|
| Graduate Institute of Animal Vaccine Technology, NPUST               | Guan-Ming Ke   | Assistant Professor Rank |
|  |                | Research Fellow          |
| General Research Service Center, NPUST                               | Chao-Hung Chen | Professor                |
| Department of Bioscience technology, Chung Yuan Christian University | Yi-Ning Chen   | Associate Professor      |
|  |                | Professor                |
| Academia-Industry Consortium for Agricultural Biotechnology Park     | Yu-Lin Su      | Commissioner             |

3. **Content of Cross-School Research and**

## Development

Provide professional consulting, technical guidance, animal testing, safety testing and related animal live virus immune efficacy assessment services for the production, research and development, testing and biosafety management of animal vaccine adjuvants for manufacturers in Academia-Industry Consortium for

Agricultural Biotechnology Park. Our team also can provide professional test reports to assist the development of the animal vaccine industry in Agricultural Biotechnology Park.

4. **Description of Industrial Needs and**

## Research Result Applications

This program can solve the needs of clinical trial sites for animal vaccine-related products, and provide manufacturers with professional animal medicine reports with veterinary certificates to enhance product credibility and commercialization process.

5. **Performance of Cross-School Research**

## and Development

(1) Our team cooperated with the Agricultural Science Park Industry-Academic Association to provide guidance to 4 manufacturers in the Agricultural Biotechnology Park, including ( a ) Virbac( Taiwan ) Co., Ltd. : cell culture aquatic animal virus antigen technology guidance and vaccine adjuvant testing ; ( b ) Wonder Vax Co., Ltd. : Cell culture chicken Newcastle virus antigen technical guidance and vaccine adjuvant test ; ( c ) COUNTRY BEST BIOTECH Co., Ltd. : New vaccine adjuvant test ; ( d ) Go Far Group Co., Ltd. : Vaccine

adjuvant quality test.

- (2) Coaching three students from the Graduate Institute of Animal Vaccine Technology to participate in the research and development project.
- (3) Three students from the Graduate Institute of Animal Vaccine Technology went to Go Far Group Co., Ltd. for industrial internship.

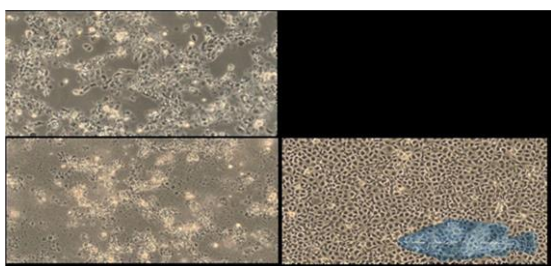


Fig 1 : Results of cell culture aquatic animal virus antigen technology guidance ( Virbac ( Taiwan ) Co., Ltd. ) .

| Blood                   | MF-59              | Novel adjuvant       |
|-------------------------|--------------------|----------------------|
| IFN- $\gamma$ (pmol/ml) | 171.32 $\pm$ 4.53  | 339.72 $\pm$ 5.63*   |
| TNF- $\alpha$ (pmol/ml) | 334.51 $\pm$ 31.62 | 921.81 $\pm$ 121.73* |
| IL-2 (pmol/ml)          | 75.53 $\pm$ 1.14   | 119.41 $\pm$ 55.12*  |
| IL-10 (pmol/ml)         | 214.35 $\pm$ 7.19  | 613.57 $\pm$ 87.17*  |

Fig 2 : New vaccine adjuvant test results ( COUNTRY BEST BIOTECH Co., Ltd. ) .



Fig 3 : Members of the research team held discussions and exchanges with technical staff from the head office of Virbac Co., Ltd.

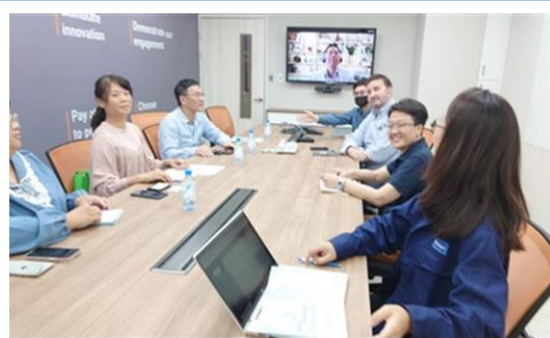


Fig 4 : Members of the research team held discussions and exchanges with technical staff from the head office of Virbac Co., Ltd.



Fig 5 : Members of the research team held discussions and exchanges with technical personnel from Wonder Vax Co., Ltd.

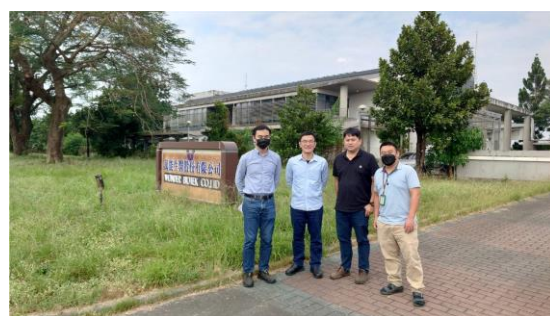


Fig 6 : Members of the research team held discussions and exchanges with technical personnel from Wonder Vax Co., Ltd.