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### Experience:

Attending and Chief, Division of Pediatric Infectious Diseases, Department of Pediatrics, National Taiwan University Children's Hospital, 2003-now

Attending and Chief, Division of Pediatric Infectious Diseases, Department of Pediatrics, Chang-Gung Children's Hospital, 1996-2003

### Market Needs:

There were large outbreaks of enterovirus 71 (EV71) infections resulting in many deaths in Bulgaria, Hungary, Malaysia, Taiwan and mainland China as well as the Southeast Asia. The other important and highly transmissible virus is adenovirus which may cause complications or hospitalization, and some severe or fatal cases in young children. However, there is no antiviral therapy for EV71 and adenovirus infection in the market.

### Our Technology:

We screened antiviral activities of plants and herbs with different methods of extraction and different combinations and defined the IC<sub>50</sub> (50% inhibitory concentration), CC<sub>50</sub> (50% cytotoxicity concentration) and selective index (SI) by plaque assay and cytotoxicity assay for EV71 and adenovirus. According to IC<sub>50</sub> and SI, 2 best candidates with specific extraction (one for adenovirus with IC<sub>50</sub> of 3-10 ug/ml and SI>300; one for EV71 with IC<sub>50</sub> 8 ug/ml and SI: 125) were chosen to make this antiviral pharmaceutical combination. This antiviral pharmaceutical combination can be applied to make antiviral therapeutic or preventive products in the future.

### Strength:

1. **Innovation:** This antiviral pharmaceutical combination has antiviral activity against both adenovirus and Enterovirus 71, and products with antiviral activity against adenoviruses or Enterovirus 71 can not be found in the market.
2. **Professional:** The component plants will be planted by GAP and qualified for being the compositions of botanical drugs.
3. **Potential:** According to the global market of botanical drugs, the output value was about 22.87 billion US dollars in 2013. Since adenoviruses and EV71 are very common in Taiwan, mainland China as well as in the other countries, the market need of such antiviral products is big.
4. **Application:** According to the Taiwan FDA, the component plants of this antiviral combination are edible and they have been used or eaten for thousands or hundreds of years in China and western countries, so its safety can be approved. Therefore, this antiviral combination can be feasibly applied to make products for antiviral therapy or prevention.

### Competing Products:

No commercial products with antiviral activity against adenovirus and Enterovirus 71 now.

### Intellectual Properties:

This antiviral pharmaceutical combination is applied for patent filing for the first time and no patent of this combination or its component plants against adenovirus or EV71 is found.

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

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