

Humanized ACE2 mice for COVID-19

Humanized ACE2 mice for COVID-19 (A4 Transgenic Mouse Model Core Facility)

Dr. Lin Shu-Wha (P.I.) ; Dr. You-Tzung Chen; Dr. I-Shing Yu

Dept. Clin Lab Sci Med Tech; Grad. Inst. Genomic & Proteomics; Lab Animal Center, College of Medicine, National Taiwan University

01 Introduction

Since the SARS-CoV-2 outbreak in Dec 2019, COVID-19 became a serious public health problem. The host immune responses to SARS-CoV-2 infection is directly related to the manifestation of symptoms and severity of the disease, however, the underlying mechanism is still not clear. At the beginning of the pandemic, we started to produce *hACE2* transgenic mouse by both the CRISPR/Cas9- and ES cell-based approaches to develop animal models for SARS-CoV-2 vaccine- or drug-development as well as its related research.

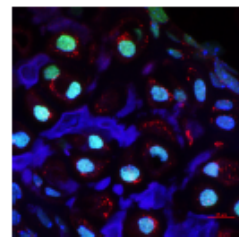
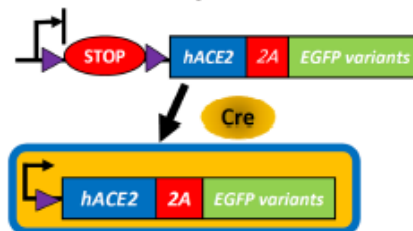
02 Application

1. Provide research institutions with a SARS-CoV-2 testing platform at a relatively lower cost.
2. Accelerate the research and development of SARS-CoV-2 vaccine in Taiwan, and foster related small companies, with the goal of becoming self-sufficient.

人類ACE2模式小鼠
COVID-19 mice model



- *hACE2* *KI* *Ace2*
- *R26R-AHP*
- *R26R-AGP*



03 platform

1. R26R-AGP and R26R-AHP reporter mice for tissue-specific *hACE2* viral receptor expression were built.
2. Globally activated R26R-AGP proved susceptible to SARS-CoV-2 D614G variant through collaboration with the ABSL3 facility at National Defense University.

04 Product/Result Photo

