Using “non-change against changes” strategy to develop pan-CoV vaccines and therapeutics

使用“以不变应万变”策略研发冠状病毒通用疫苗和药物

Shibo Jiang (姜世勃)

Fudan University, Shanghai, China
Common drug targets of enveloped viruses

- **Viral attachment inhibitors**
- **Viral fusion inhibitors**
- **Viral endocytosis inhibitors**

Inhibit virus replication

- **RdRp inhibitors**
- **RdDp inhibitors**
- **Protease inhibitors**

Block virus entry

Coronavirus spike protein

S protein

Pan-CoV Vaccine (RBD/class 4-FP-SH)

Pan-CoV Inhibitor (EK1)

Class 1
REGN10933

Class 2
LY-CoV555

Class 3
n3113v

n3130v

Sun X et al. Nat Microb. 7:1063-74 (2022)
Pinto D et al. Science 373:1109-16 (2021)
CF501/RBD-Fc-based pan-sarbecovirus vaccine

CF-501/RBD-Fc-based pan-sarbecovirus vaccine is highly effective against:

1) SARS-CoV-2 and its variants (e.g., Alpha, Beta, Gamma, Delta, Omicron BA.1~BA.5);

2) SARS-CoV and its variants;

3) Bat SARSr-CoVs (e.g., WIV1, Rs3367, and RsSHC014).

Highly potent pan-CoV fusion inhibitor EK1 will be used in intranasal spray and inhalation formulations to prevent and treat infections of SARS-CoV-2, SARS-CoV, MERS-CoV, and also the emerging and reemerging SARSr-CoVs in the future.