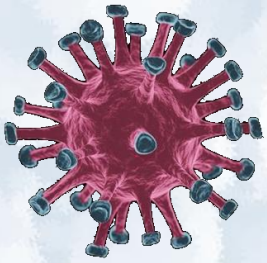
IBL AI Bio

Licensing Opportunity: Novel Drug Seeds

Anti-SFTS-virus Ab

SFTS (Severe Fever with Thrombocytopenia Syndrome)

SFTS is thermal hemorrhagic disease, caused by infection with SFTS virus (SFTSV) carried by ticks.
Human-to-human transmission and a patient who developed SFTS after being bitten by a cat or dog have also been reported.
Epidemic in China and other Asian countries.
The number of cases is small, but the fatality rate is high.
There is no effective basic treatment.



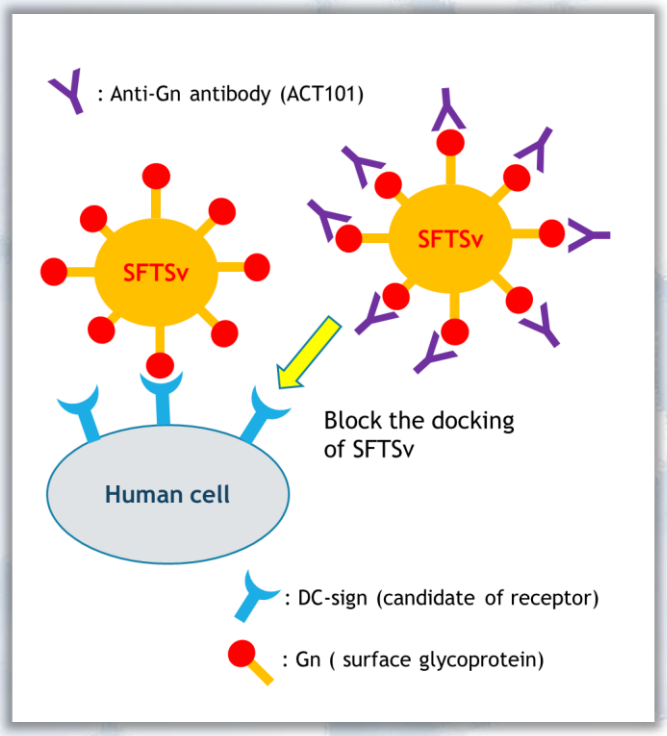
Development seed (ACT101):
Antibody genes were extracted from lymphocytes of patients infected with SFTSV and recovered, constructed scFv library, and screened as candidate genes. The candidate genes were screened, evaluated for activity, and designated as drug seeds (ACT101).

Pharmacological mechanism:
ACT101 binds to the SFTSV surface protein (Gn), allowing the virus to prevents infection by blocking host cell binding to DC-SIGN.

Efficacy test:
in the SFTSV-infected mouse model confirmed

Patented in Korea, USA, Japan, China

Mechanism of action

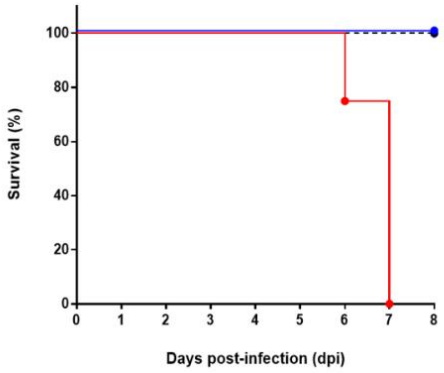


We have more information about in vitro efficacy for SFTSV isotypes, in vivo efficacy of other animal models and single dose toxicity test.

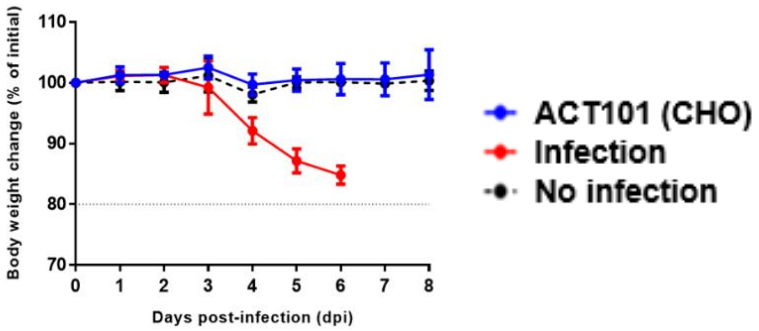
in vivo Efficacy of ACT101

As a result of 4 times administration of ACT101 to mice infected with SFTSV,
- 100% survival on ACT101 administration group
- No change of bodily weight on ACT101 administration group.
- 0% survival (all dead) on ACT101 non-administration group at 7 days post-infection

Survival Rate



Body Weight Change



- Animal : A129 mice (IFNα/βR-/-)
- Test group : 3 group
  1) ACT101 (CHO)
  2) infection
  3) No infection
- Virus : SFTSV (Gangwon/Korea/2012 strain)

- Viral injection dose : 20 PFU
- Route of viral administration : s.c.
- Administration volume of antibody : 30 mg/kg
- Route of antibody administration : i.p.
- Days of antibody administration : 1,2,3,4 days post-infection (4 times)

An anti-Gn glycoprotein antibody from a convalescent patient potently inhibits the infection of severe fever with thrombocytopenia syndrome virus. Kim K. H. et al. *PLoS Pathog.* 2019 Feb 1;15(2):e1007375.

Please feel free to contact us : Email: do-ibl@ibl-japan.co.jp