LJI Available Technologies

La Jolla Institute FOR IMMUNOLOGY | Life Without Disease.®

Stabilized, Trimeric Rabies Virus Glycoprotein

Researchers at the La Jolla Institute for Immunology (LJI) have developed a stabilized, trimeric rabies virus glycoprotein.

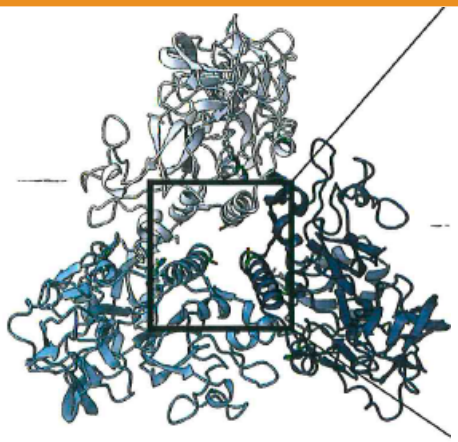
Rabies virus can infect both humans and all other mammalian species and is the causative agent of rabies. Rabies is nearly 100% lethal if untreated and causes over 50,000 human deaths every year, mostly in children. Despite the existence of vaccines and anti-viral antibodies, rabies virus remains a threat to global human and animal health, largely because existing rabies vaccines do not elicit long-term immune responses in most vaccinees. Rabies vaccines usually consist of inactivated rabies virus and elicit an antibody response against rabies virus glycoprotein (RabvG), the only exposed protein on the surface of rabies virus. RabvG adopts a variety of conformations, readily transitioning between its pre-fusion and post-fusion conformations and between monomeric and trimeric states. The heterogeneity of RabvG likely prevents the immune system from generating a long-lasting immune response to rabies virus after vaccination.

Recently, researchers in the Ollmann-Saphire lab at LJI have solved the structure of the trimeric RabvG and introduced a series of point mutations to the protein in order to stabilize it in its trimeric, pre-fusion conformation. This has the potential to aid in the development of a vaccine that can generate a long-term anti-rabies immune response. It may also prove valuable in diagnostic assays, as a target to develop new anti-rabies antibody therapies, and as a research tool.

ADVANTAGES:

- **Maintains RabvG protein in trimeric, pre-fusion conformation**
- **Useful as a vaccine or diagnostic assay antigen and as a target to develop anti-rabies antibody therapies**

Pre-fusion stabilized, trimeric rabies virus glycoprotein



The three protomers of the pre-fusion, trimeric RabvG are shown from the top view in shades of blue

Tech ID # 2021-122 Patent Pending

La Jolla Institute for Immunology | Business Development
+1 (858) 752-6500
bd@lji.org
https://www.lji.org/research/licensing-opportunities/