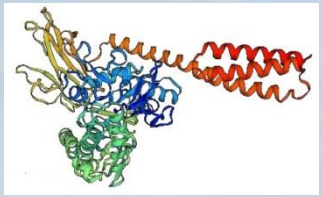
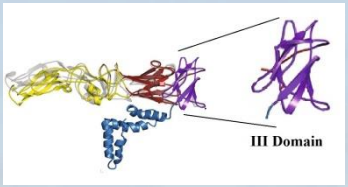
Toxicity and immunogenicity investigation of Tick-borne encephalitis virus chimeric antigen incorporated in immunostimulating complexes based on triterpene glycosides from Cucumaria japonica

Andrey Mazeyka, Ludmila Pomazenkova, Nina Sanina, Ekaterina Krasheninina
Department of Biochemistry and biotechnology, Far Eastern Federal University, vladivostok

Chimeric antigen production



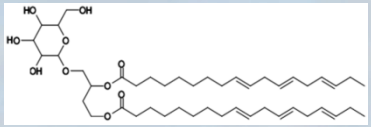
HSP70 protein from Yersinia pseudotuberculosis



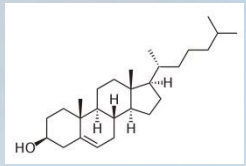
E-protein from Tick-borne encephalitis virus

Chimeric antigen

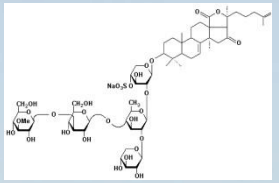
Tubular immunostimulating complex formation



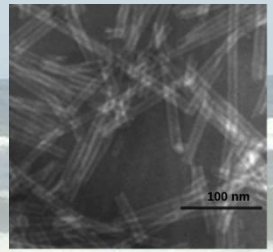
Monogalactosyldiacylclycerol



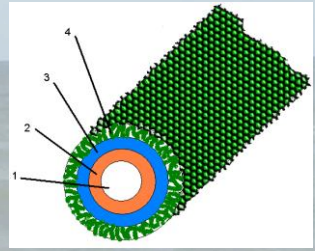
Cholesterol



Cucumarioside A2-2



1 – the inner channel,
2 – the layer of MGDG
3 – the layer of cholesterol-aglycone complexes,
4 – the layer of carbohydrate chains of triterpene glycoside

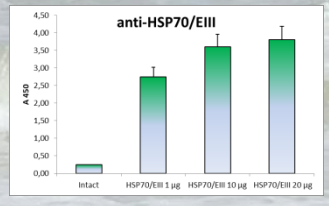


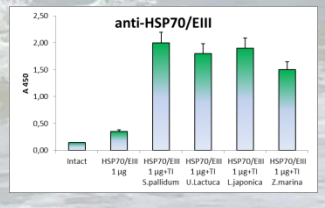
Biotesting

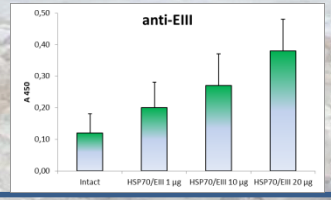
Chimeric antigen has no acute toxicity and pyrogenic effect up to dose 1000 µg per mouse

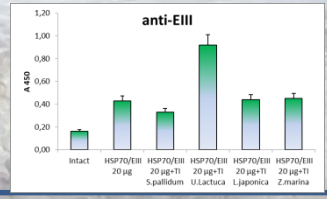
Chimeric antigen has no subacute toxicity up to dose 150 µg per mouse

Chimeric antigen has no hemolytic activity up to concentration 2400 µg/ml









Protective effect 20%,
after immunization pure chimeric antigen, as well as antigen in composition of TI-complexes