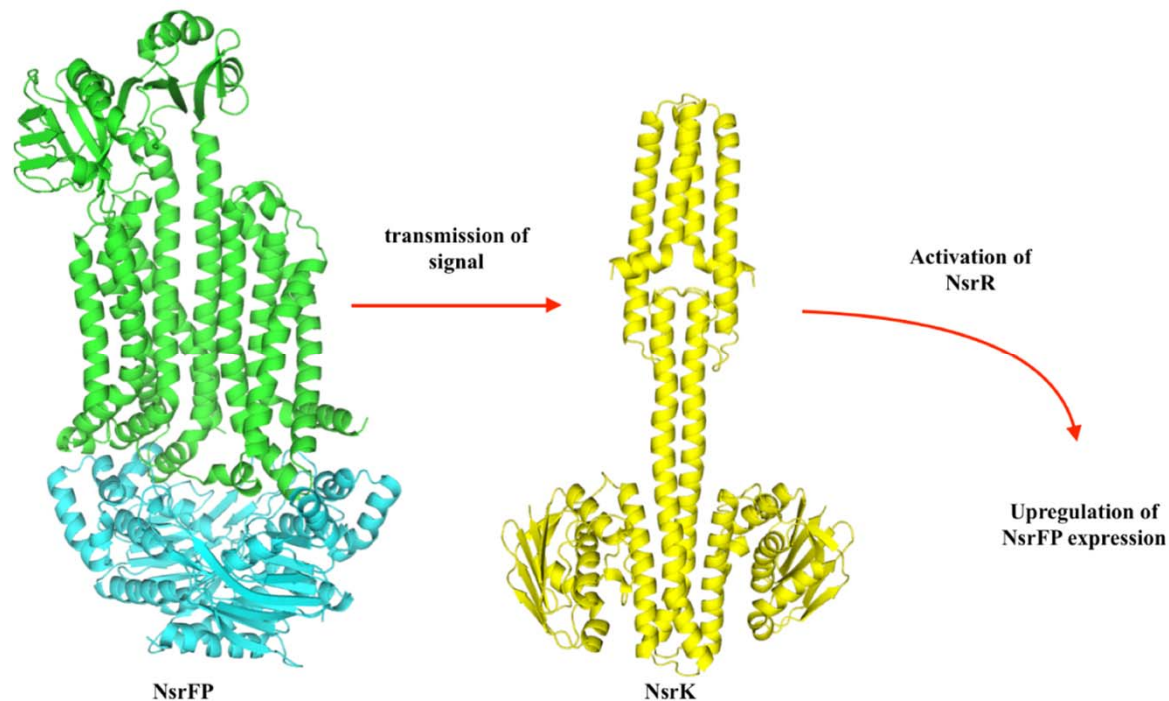


Nisin as a model system to overcome lantibiotic resistance in bacterial pathogens



Lantibiotics are antimicrobial peptides and produced by gram positive bacteria against other gram positive bacteria. Nisin has been used as a model lantibiotics for studying them. *S. agalactie* developed a resistance against nisin via NsrFP – NsrRK, an ABC transporter and two component system consisting of histidine kinase and response regulator. The transporter is responsible for the resistance against the lantibiotics while two component system is responsible for expression of the transporter following the activation of the two component system. The main aim of the project is the identification of NsrFP mechanism by using molecular modelling and molecular dynamics simulations. In addition, the interaction between NsrFP and NsrK, histidine kinase of the two component system, and the signal transmission mechanism will be investigated.