



### Use of YSCF, truncated YSCF and YSCF homologs as adjuvants

UND Technology 11-13

Patent Number US 9,211,327

Date of Issuance: December 15, 2015

#### Summary

The University of North Dakota has patented compositions and methods for enhancing an immune response. The immune response is enhanced by providing an adjuvant of isolated or recombinant YscF, an isolated or recombinant fragment or truncation thereof, or a homolog thereof. The composition includes an antigen and an effective adjuvanting amount of recombinant Type III needle protein, wherein the Type III needle protein comprises an effective fragment of YscF protein.

#### Advantages

- Potential to help fight against plague, which currently has no available vaccine
- Alternative to killed whole cell and attenuated live plague vaccines that have been used in the past
- Ability to utilize Yersinia pestis pathogen as an antigen

#### Inventors

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