**Shigella flexneri as an infectious disease agent**

- Gram negative member of the Enterobacteriaceae (located in the digestive tract)
- Causative agent of shigellosis (bacillary dysentery)
- Low infectious dose
- Invades cells and tissues of the colonic epithelium
  - Invades and kills macrophages
  - Invades and replicates in epithelial cells
- High morbidity in developing world
- Relatively high mortality among young children due to fluid loss (dysentery)

**Shigella causes disease by invading cells of the colonic epithelium**

**Cellular invasion requires a functional type III secretion system**

**DISCUSSION**

Purified proteins from the Shigella type III secretion system apparatus components located on the bacterial surface make attractive targets for directed vaccination. Purification of these components marks a first step in creating these vaccines.

**FUTURE PLANS**

- MxiH has been purified and is now ready for testing as a vaccine component
- IpaD has been purified and is now ready for testing as a vaccine component
- Structures are known for both proteins which will help in their formulation (stabilization)