Trypanosoma brucei gambiense
Translationaly Controlled Tumour Protein interacts with Glossina midgut bacteria

African trypanosomiasis actors
- Domestic / Wild animals and Human
- Trypanosome
- Tse tse fly

Parasite’s strategy
- Molecular dialogue between host and parasite
- Parasite destabilize environment to survive inside tse tse fly by secreted protein (secretome)
- Circulating inside tse tse fly (midgut, gut)
- During a host blood meal infected by trypanosoma

Approach
- Identified secretome’s protein contained in vesicle
- Selected proteins and study them as therapeutic and/or diagnostic target

1. Check list from secretome’s protein
   - Selection filtrer : no signal peptide
   - Physical transporter : microvesicle

2. Isolated from 39 bacteria species from Glossina midguts
   - Translationally Controlled Tumour Protein (TCTP)
     - Produced in baculovirus system
     - Purified by affinity column

3. Impact of Tbg TCTP on the bacteria growth
   - Parameters
     - Concentration of Tbg TCTP (1.6 µg to 200 µg)
     - Reading
       - 0h, 24h, 48h, 72h, 96h
     - Temperature
       - 25°C and 37°C

   - Global results
     - 25°C and 37°C bacteria have a similar growth with any Tbg TCTP concentration
     - Results at 25°C
       - In majority no effect regardless atmosphere excepted to few bacteria species at three concentration of Tbg TCTP

   - Results at 37°C
     - Temperature effect
     - Inhibition effect independent time, atmosphere, and Tbg TCTP dose

Conclusion
- Identification of Tbg TCTP in vesicles
- Production and purification
- Physical interaction with number of Glossina bacteria species
- Impact of bacteria growth is highly disturbed regardless the concentration of Tbg TCTP in vitro
- In vivo, in Glossina, this bacteirome modulated could be associated to vector competence