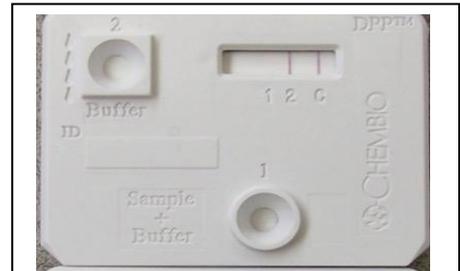


## Tuberculosis (TB)

Tuberculosis is a chronic bacterial disease that affects many mammalian species, including humans and elephants. The causative pathogen is *Mycobacterium tuberculosis*-complex. An elephant becomes infected by contact with people or another elephant that has TB. The time between when the elephant is infected and the occurrence of the first symptoms is variable and may be several years or sometimes even decades.

Clinical signs of TB may include:

- Weight loss
- Respiratory discharges
- Exercise intolerance



Picture 5. DPP test showing one control line (C) and one line that represents a positive test result (2)

**In most elephants, signs of TB are not seen until the disease is quite advanced.**

TB can be difficult to diagnose.

The presence of active TB can only be determined in respiratory samples collected from the trunk (trunk wash). Trunk washes can easily be trained and are practiced in many zoos worldwide. The sample is sent to a laboratory that can culture TB-bacteria. Unfortunately the ability of the trunk wash to accurately identify an infected elephants is very poor and many samples are needed. A negative culture result is no guarantee that the elephant is free of TB; it only tells us that there were no TB-bacteria in the sample at that particular moment. A positive result, however, is proof for a TB-infection and that the elephant is spreading the disease through its trunk by spraying or coughing.

A blood test (the DPP VetTB test) has been shown to be an early indicator of TB. It is a screening test licensed in the U.S. It detects antibodies to TB, not the actual organism.

Elephants that are TB-culture positive form a risk for other elephants as well as for the people around and should not be kept with other elephants. The elephant care takers should be tested for TB and the elephant should be treated. The treatment is very long (12 months or longer) and costly. The same kind of antibiotics as used to treat TB in humans is also used to treat TB in elephants.

*What can the elephant care takers do to prevent the elephants from becoming ill or even die from tuberculosis? And what can the caretakers do to make it possible to treat the elephant when he has become ill?*

- Observe the elephant's body condition for weight loss
- Note any unusual discharges from the trunk
- Follow instructions regarding segregation of any elephants with confirmed or suspected TB
- People with active tuberculosis should not be in contact with elephants.
- Train the elephant to cooperate for the following veterinary activities:
  - a. Collection of blood samples from the ear: **Bi-monthly training.**
  - b. Trunk wash: **Monthly training**
  - c. Removal of feces from the anus and rectum (to treat elephants for Tuberculosis, antibiotics are often given through the rectum): **Monthly training.**
  - d. Swallowing of bitter tasting tablets and pills. **Bi-monthly training.**