Standard Operating Procedure for the anthrax ICT

Sample collection

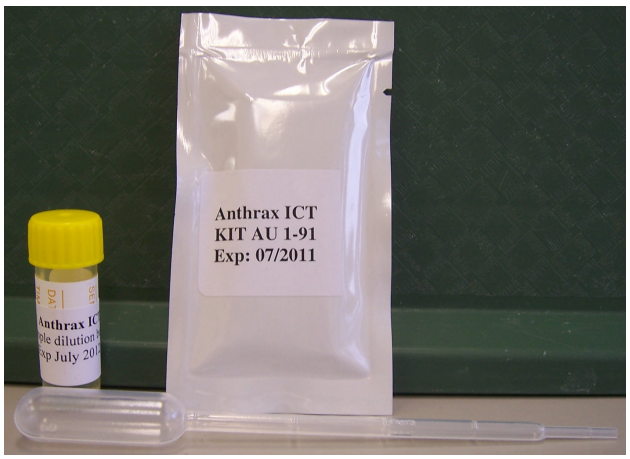
Preferred samples for diagnosis are blood from jugular, mammary, limb or other peripheral veins. If venous blood cannot be obtained without opening the carcass, then a sample can be collected from blood pooled in the nasal cavity.

Precautions & warnings

- The ICT should be used with caution on animals that are more than 48 h post-mortem
- The ICT and buffer must be kept refrigerated at 4 degrees Celsius or cool on ice within an esky during field transport.
- ICT kits should NOT be frozen.
- Appropriate PPE should be worn.

ICT technique and interpretation

1. Examine the ICT package to ensure it is within the expiry date and that the foil package is not torn or perforated. If the expiry date has been surpassed please contact the National Anthrax Reference Laboratory at DJPR Agriculture Victoria c/o Janine Muller 03 90327263 or Ilhan Mohammad 03 90327261.



2. Allow the ICT and buffer to come to room temperature before use, this will take approximately 5 minutes.

3. Place 1 drop of blood or a swab dipped in blood into the 3mL of sample dilution buffer.

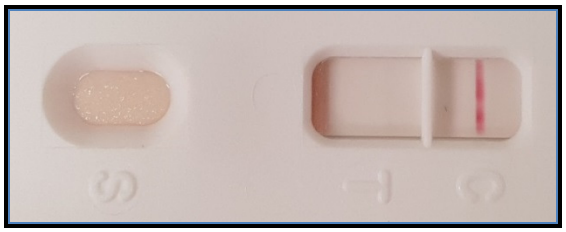
4. Replace lid on sample dilution buffer and mix.

5. Remove the ICT from the foil package (checking that the desiccants within the package are still blue) and fill the sample delivery well (marked “S” on the kit) with the sample using the disposable transfer pipette provided.

6. Allow 15 minutes for the sample to move through the ICT before reading.
   Note: a line may be visible prior to 15 minutes

7. Read the ICT result as shown in the figures below.

NEGATIVE ICT

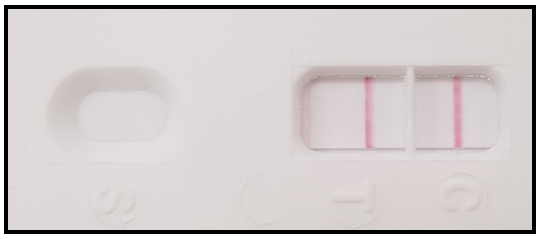


No pink line in test window (T) and pink line in control window (C)

NB- If the control line is not visible at 15 minutes, the test is not valid.

INTERPRETATION: The sample does not contain anthrax PA or the concentration is below that detectable in this assay.

POSITIVE ICT



Pink line present in both the T and C windows.

NB – Even a weak line in the test window should be considered POSITIVE

INTERPRETATION: The sample contains anthrax PA.

Waste disposal

In the case of a positive ICT result or where there is a high index of suspicion of anthrax, but a negative test result, the ICT, buffer mix, syringe/needle and gloves should be disposed of as per usual protocol for disposal of infectious biological waste.

ICT interpretation and reporting requirements:

In samples taken from animals and processed within 48 hours post mortem, the sensitivity of the test approaches 100% (95% CI 93.98-100%). On this basis, it is recommended that the ICT only be performed on samples from animals within 48 hours post-mortem. Where the test is used beyond 48 hours post-mortem, the sensitivity will decrease; however, any positive ICT can still be regarded as a true result.

Given that anthrax is a notifiable disease, any positive or equivocal result obtained from testing in the field should be immediately reported to the relevant authority. The result should also be confirmed using an approved laboratory method of diagnosis, preferably with the Anthrax National Reference Laboratory who will store the isolate in the National Reference Collection.

In the case of a negative result, appropriate samples for investigation of sudden or unexpected death should be submitted to a diagnostic laboratory in an attempt to make a definitive diagnosis - accepting that it is highly unlikely that the cause of death was anthrax. Negative laboratory confirmation of anthrax would only be required if a risk assessment indicates that the case does not match the ICT result. Careful consideration and use of State SOPs should then be instigated.