

GUIDELINES FOR THE SUBMISSION OF IONISED CALCIUM SAMPLES

Indications

Measurement of ionised calcium (iCa) plays an important role particularly among patients with hyperparathyroidism, kidney disease, hypercalcemia of malignancy and Addison's in dogs.

There are many physiological (e.g., kidney function, pH and ventilatory state, dietary intake etc.) and **preanalytical factors** (time to process, exposure to air, storage temperature, type of tube etc.) that can **significantly** affect the test, therefore particular care should be taken to follow the correct protocol when submitting the sample to the laboratory.

Notes

- **Only Separated serum** should be used for iCa sample submissions to the laboratory. **Prompt** serum separation is essential. Where red blood cells remain in contact with serum, anaerobic metabolism in the tube leads to lactic acid accumulation, which decreases the pH and falsely increases iCa values.
- **Minimise exposure to air.** Mixing serum with air causes increase in pH due to loss of PCO₂, leading to decreases iCa values. NB: brief exposure of the surface of serum to air does not alter values.
- Samples should **not** be frozen.

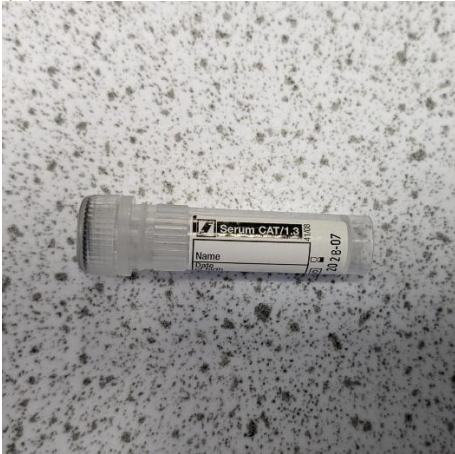
Protocol

- Collect a **fasted** sample in the 1.3ml Serum tube supplied **(1)** It is **essential** this tube is **filled to the top** for centrifugation. Please only briefly remove the lid for filling with blood to avoid prolonged exposure to air.
- Allow sample to stand for clot formation. **Centrifuge within 30 minutes** at high speed for 5 minutes. Check serum separation is complete. Re-spin if there is not a clear layer between serum and the red cells.
- Using a syringe and needle, collect the serum by **briefly** uncapping the serum tube.
- Place serum in the vacutainer by inserting the needle through the cap of the vacutainer. **DO NOT ever remove the lid of the vacutainer tube (2)** Please note: Vacutainers do not need to be filled to the top.
- Place the serum tubes in the absorbent padded envelopes **(3)** and seal in the **purple bag (4)** provided.
- Finally place the purple bag into the **Biohazard bag (5)** provided, with the form placed securely into the Biohazard back pocket.
- Keep cool and submit to laboratory ASAP. Samples should **not** be frozen.

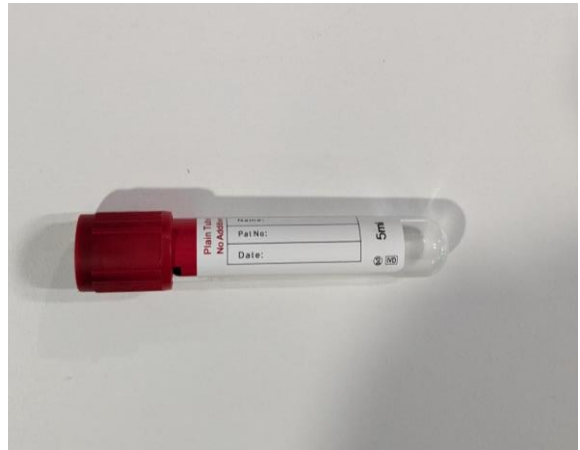
Please ensure samples are submitted as separated serum (0.4ml Minimum volume). Samples not submitted in a vacutainer tube, with any Haemolysis or older than 2 days when reaching the lab will NOT be processed. Please see overleaf for diagrams of materials included.



(1)



(2)



(3)



(4)



(5)

