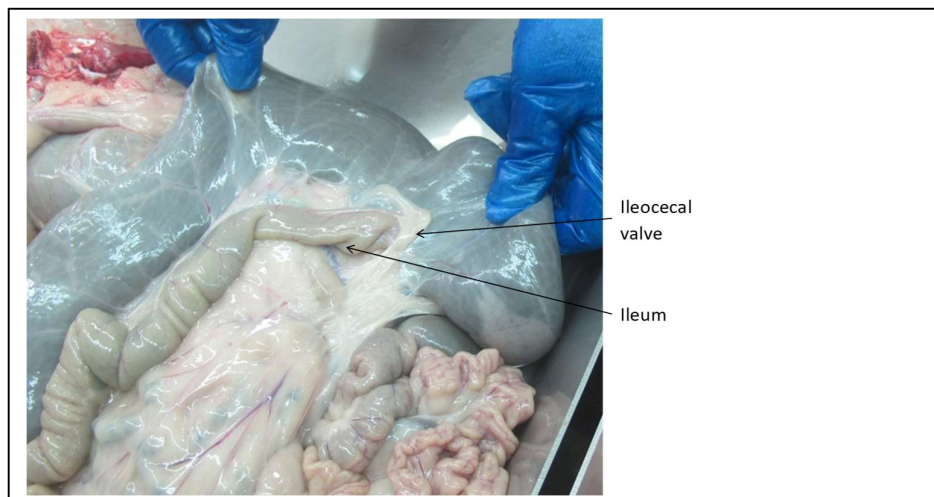
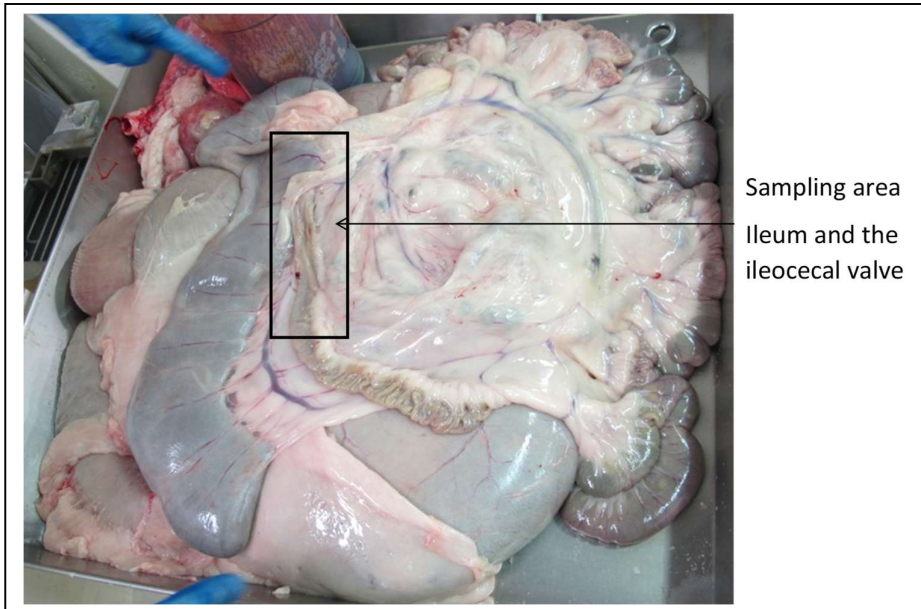


## Paratuberculosis – tissue sampling

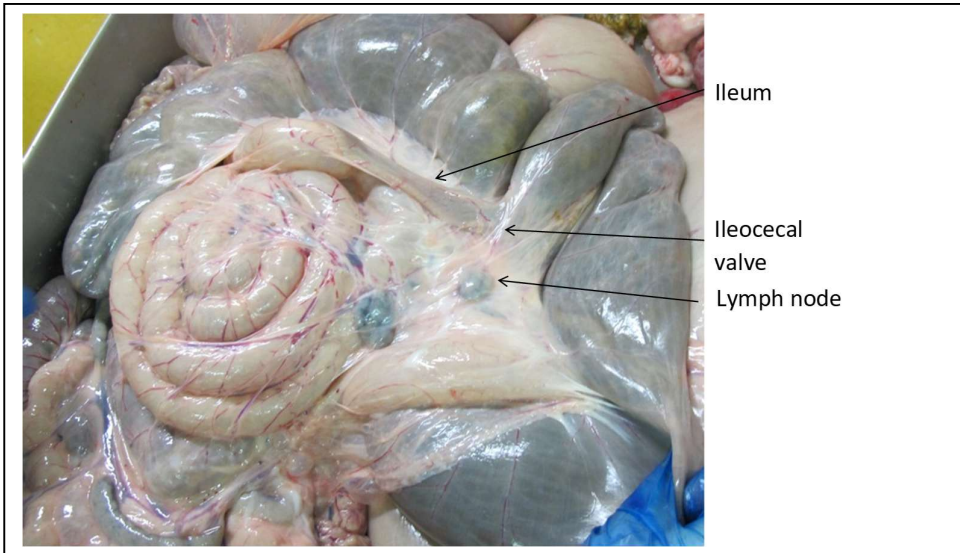
- Plastic container with a tight lid / zip-bag
- Thick, absorbent tissue paper, e.g. hand towels
- Samples taken from the ileum with the ileocaecal valve and draining lymph nodes (see more detailed description below)
  - NB Don't send the mesenteric fat
  - NB Handle the samples with care (don't squeeze or stroke) to preserve the tissue for histopathological examination
- Cool off the samples before the lid is put in place / the zip-bag is closed
- Label the samples clearly
- Send in a request form (Krufningar/meinafræði – rannsóknarbeiðni on Keldurs homepage)
- State the reason for tissue sampling (suspect paratuberculosis / animals crossing restriction zones etc.)

### DETAILED DESCRIPTION WITH ILLUSTRATIONS

1. Turn the intestines so as to place the ileum and the ileocecal valve upward.



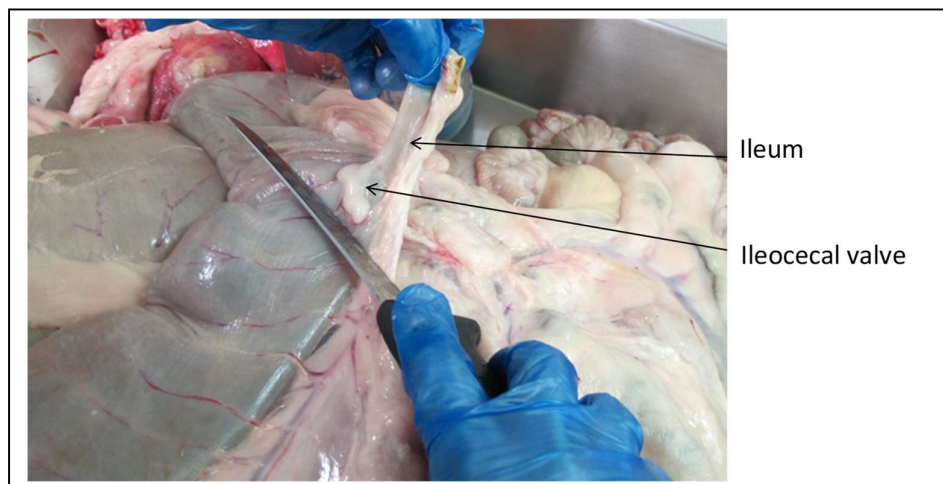
## Paratuberculosis – tissue sampling



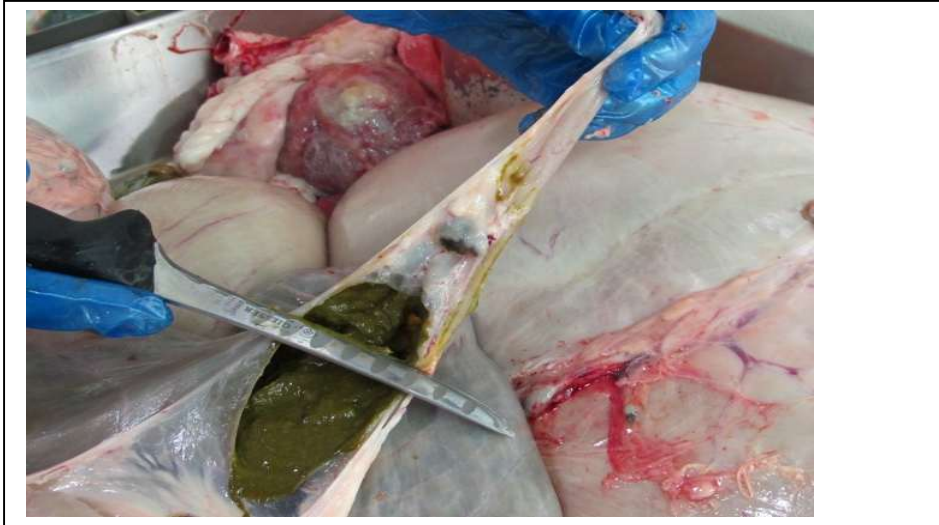
2. Lymph node / nodes close to the ileocaecal valve along with a few draining lymph nodes from the distal small intestine (not in photo) are sampled.



3. Distal ileum (approx. 10-20 cm), the whole of ileocaecal valve and a small piece of caecum and colon (approx. 3-4 cm) are sampled.



## Paratuberculosis – tissue sampling



4. Mesenteric fat is removed (not sent with the samples) – it is easy to unravel the intestines while very fresh, thereby removing the fat at the same time. Likewise, it is easy to peel out the lymph nodes from the mesenteric fat while the tissue is fresh.

5. Lymph nodes and intestinal samples are placed in a plastic container / zip-bag **together with absorbent tissue paper** and ear-tag (if possible) or the containers / zip-bags are labelled with the name of the farm, farm number and animal number. Place the lymph nodes on top of the intestinal sample with tissue paper between the two samples.



6. The samples are placed in a cold-storage / refrigerator (NB! Do not freeze), and sent as soon as possible to the Institute.

Request form must accompany the samples – see Keldurs homepage under “Þjónusta” (<https://keldur.is/is/thjonusta/rannsoknarbeidnir-og-eydublod>)

**Rannsóknarbeiðni Krufningar Vefjaskoðun Meinafræði.**

7. The samples should be sent to:

***Meinafræðideild  
Tilraunastöð Háskóla Íslands í meinafræði að Keldum  
Keldnavegur 3  
112 Reykjavík***



# Paratuberculosis – tissue sampling

## Drawings

### Routine sampling - paratuberculosis

#### Sampling – intestine

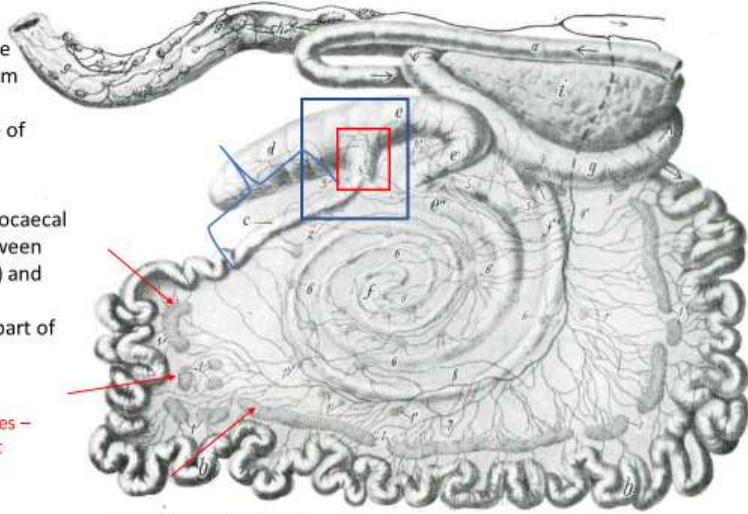
= what's in the **blue box** (ileocecal valve and ileum) along with a piece of caecum and colon) and what is in the **square bracket** = approx. 20-30 cm long piece of ileum

#### Sampling – lymph nodes

1. Lymph node/nodes close to the ileocaecal valve – **red box** (numbers vary between animal species (sheep, goat, cattle) and between individuals)).
2. Lymph nodes that drain the distal part of the jejunum – **red arrows**

#### **ATTENTION**

A lot of fat can be found around lymph nodes – peel them out so that they are devoid of fat



a = duodenum, b = jejunum, c = ileum, d = caecum, e = prox. colon, f = colon labyrinth, g = terminal loop of colon, h = rectum, l = pancreas

### Additional sampling - paratuberculosis

#### Additional samples - intestine

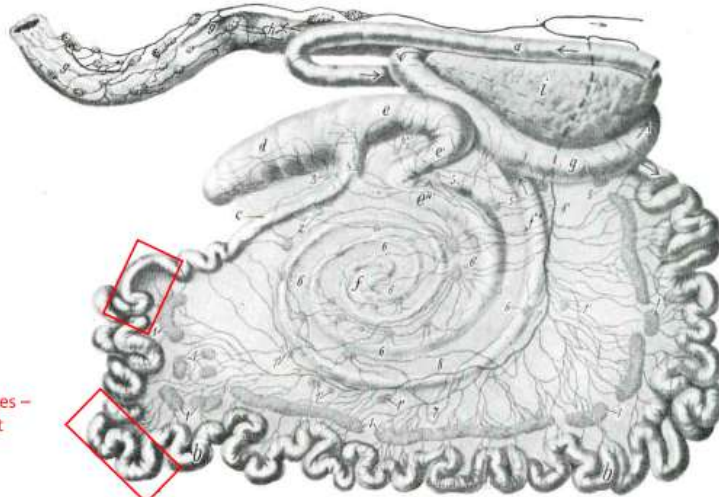
It can be advantageous to take additional samples from animals that are positive in ELISA for paratuberculosis without showing clinical symptoms; this applies especially to cattle.

#### Jejunum

2- 3 pieces of distal jejunum, each approx. 10 cm in length (red box)

#### **ATTENTION**

A lot of fat can be found around lymph nodes – peel them out so that they are devoid of fat



Intestinal tract - cattle

a = duodenum, b = jejunum, c = ileum, d = caecum, e = prox. colon, f = colon labyrinth, g = terminal loop of colon, h = rectum, l = pancreas