BiofortIGDR

Report BiofortIGDR

1/ Sampling (Ongoing)

Dr Anne-Sophie Guillory (MD) has been contacted for the sampling

Goal : 3 predisposed breeds to oral melanoma with 3 patients / breed:
- GRET (Golden Retriever) : (2-6 yo) : male or female
- LABR (Labrador Retriever) : (3-7 yo) : male or female
- TYOK (Terrier Yorkshire) : (4-8 yo) : male or female

Extraction protocole + questionnaire + kits + returns envelopes

2/ Set up of DNA and RNA extraction methods for long-read sequencing technologies (Ongoing)

3/ Set up of long-read sequencing technologies for DNA and RNA (Ongoing)

For DNA, we will rely on a previous internal run for which 12 barcoded samples have been sequenced using nanopore.

For RNA, 3 protocoles are envisaged (cDNA direct, RNA direct, cDNA-PCR sequencing) and already tested for eukaryotic samples

4/ Set up of bioinformatic pipeline for metaG and metaT analysis of long-reads. (Ongoing)

This involves (at least) 5 parts:

- QC (Quality Control) :

  ○ NanoComp
  ○ pycoQC
- Read simulation:

  ○ ART
  ○ NanoSim
- Correction :

  ○ Canu
- Taxonomic Classification:

  ○ MetaMaps
  ○ Kraken2
  ○ Centrifuge

- Assembly :

  ○ Canu
  ○ Flye

5/ Comparative study of metaG long reads wrt 16S (metabarcoding - metaB) and shotgun (metaG) (Ongoing)