



# Unlocking the Power of Veterinary Samples- A Promising Source for “One Health” Research

# ONE HEALTH

**One Health** is the idea that the health of people is connected to the health of animals and our shared environment.



When we protect **one**,  
we help protect **all**.

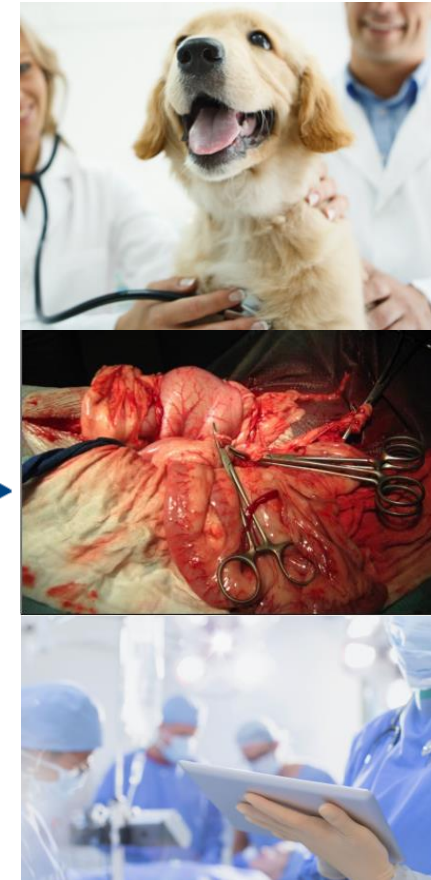
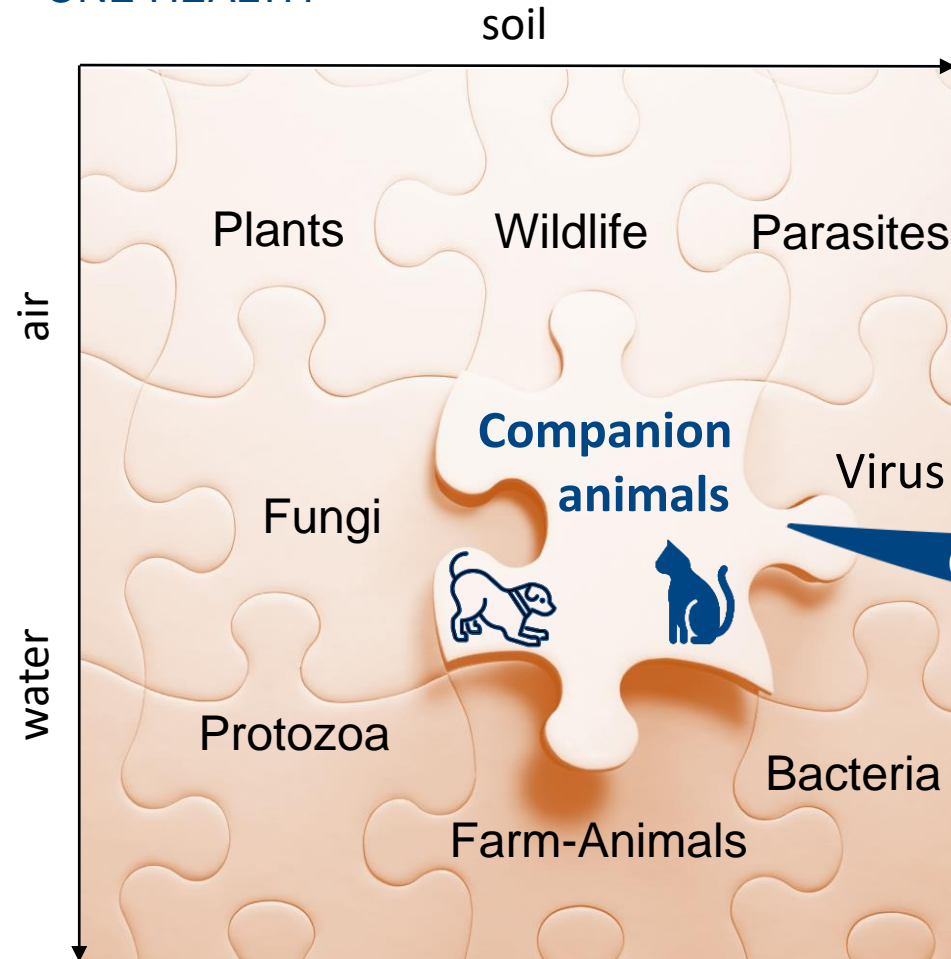
[www.cdc.gov/onehealth](http://www.cdc.gov/onehealth)



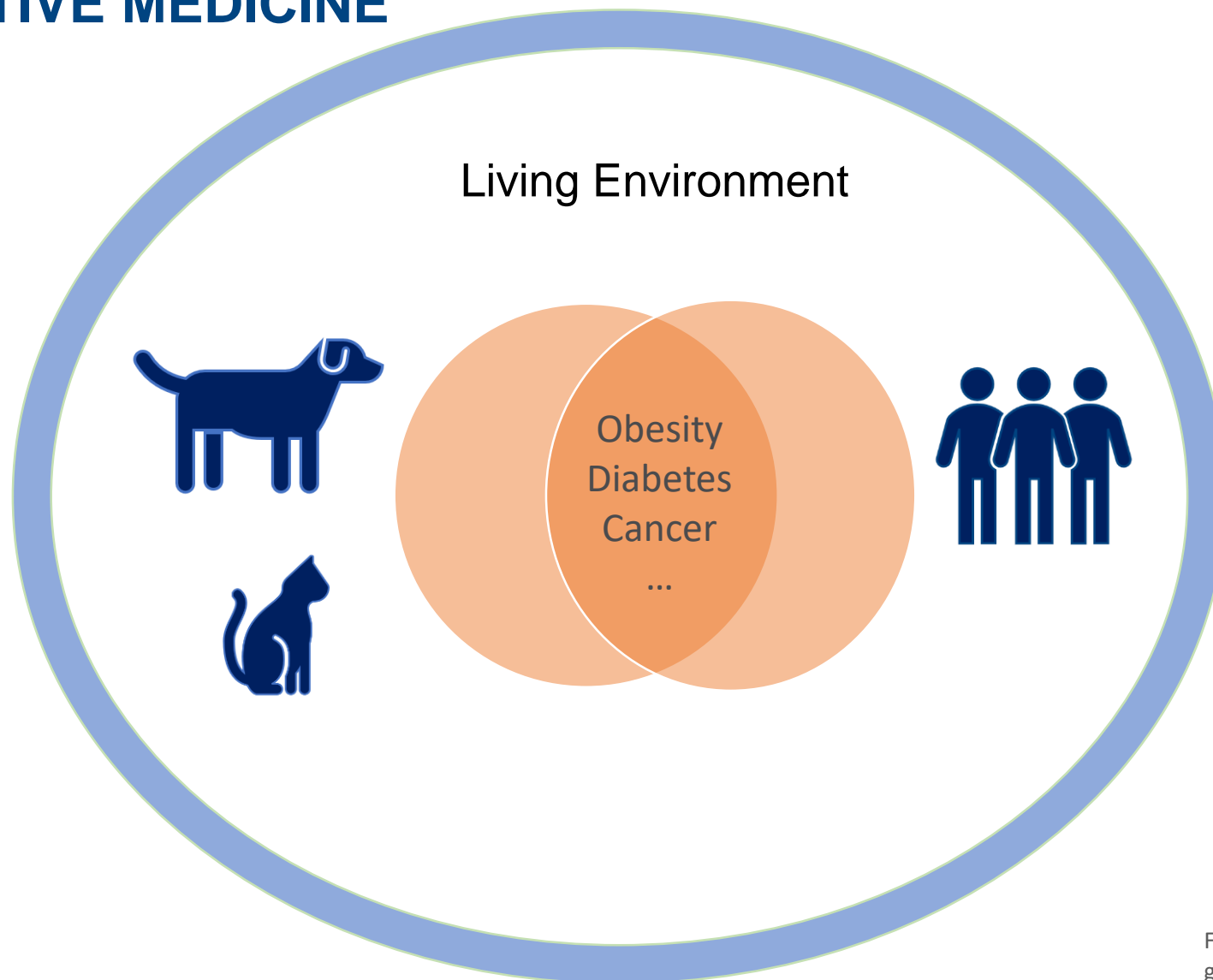
CE29004A

# HUMAN vs. NON-HUMAN

ONE HEALTH



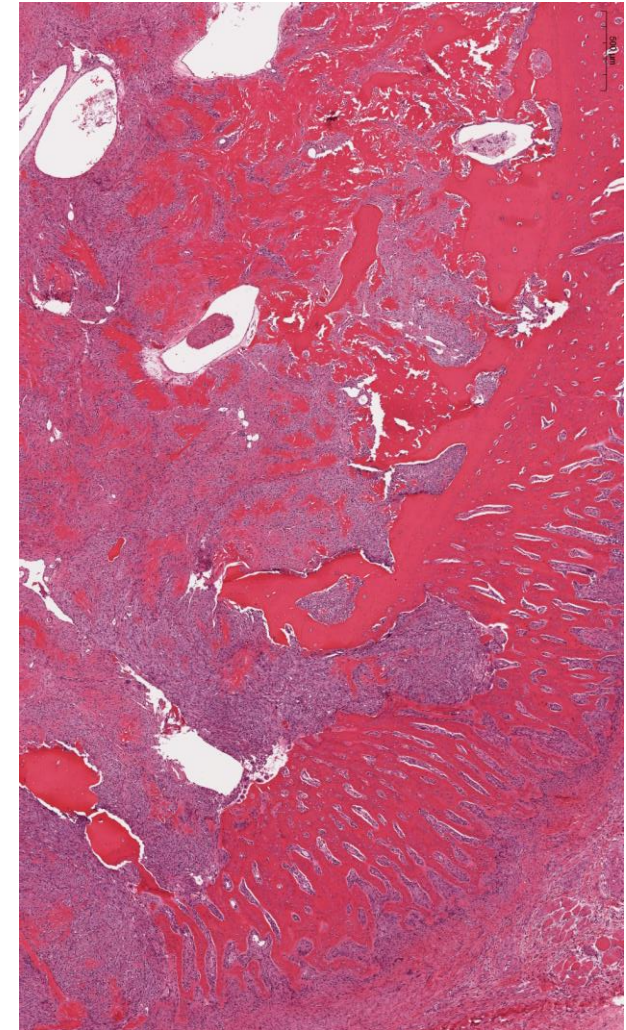
# COMPARATIVE MEDICINE



---

## EXAMPLE COMPARATIVE ONCOLOGY: CANINE OSTEOSARCOMA

- Tumors occur spontaneously (not induced as in mouse model)
- Similar metastatic behaviour (90% lung)
- Similar histological subtypes
- Similar genes and pathways involved in tumorigenesis
- Therapy: surgery and chemotherapy
- Accepted model for the human osteosarcoma
- Evaluation of novel biomarkers and anticancer targets
- High incidence in large breeds – more animal samples available



# VETBIOBANK – CLINICAL VETERINARY SAMPLES

UNIVERSITY OF VETERINARY MEDICINE, VIENNA

**Founded:** 2007

Consortium Partner of **BBMRI.at** since 2013

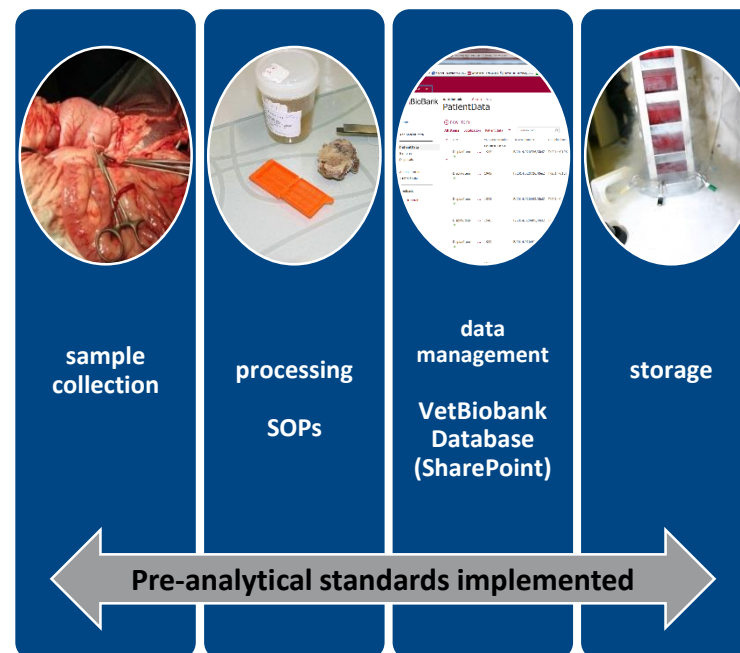
**Type:** Non-human (companion animals)  
Disease based

**Focus:** Tissues from tumor &  
healthy reference samples

**Size:** >65000 samples

**Quality:** Standardized sample & data management  
Preanalytical standards implemented  
(ISO 20166, ISO 20184)

**Description:** VetBiobank, Vetmeduni Vienna:  
A bioresource for clinical animal biospecimens,  
*Walter et al., 2020. Open Journal of Bioresources 7(1), p.9*



- ✓ Arterial clamping time
- ✓ Collection time
- ✓ Transport time
- ✓ Transport temperature
- ✓ Preparation time
- ✓ Fixation/stabilization time
- ✓ Fixation duration
- ✓ Storage time
- ✓ Storage temperature
- ✓ Sample delivery time



[Back to the catalogue](#) / VetBioBank

## Biobank

# VetBioBank

**Id:** bbmri-eric:ID:AT\_VET

**PID:** 21.12110/1.DBA7-28AA-1AF7

**Description:** The VetBiobank aims to achieve a comprehensive collection of high quality animal tumor tissue. A second priority is the archivation of reference tissues of a wide range of species.

**Collection types:** Sample collection, Non-human, Image collection, Quality control, Disease specific

**Juridical person:** University of Veterinary Medicine

## Feline Lymphoma Cohort

**Id:** bbmri-eric:ID:AT\_VET:collection:FelineLymphomaCohort

**Size:** 1000 - 10.000

**Available:** 5061 samples

**Donors:** 33 donors

**Age:** 0-15 Year

**Type:** Sample collection, Non-human, Disease specific, Image collection

**Sex:** Neutered female (animal), Neutered male (animal), Female, Male

**Materials:** Tissue (paraffin preserved), Tissue (frozen), Tissue (stained sections/slides), Serum, Plasma, Urine, Feces

**Storage:** Room temperature, Liquid Nitrogen

**Data:** Data on clinical symptoms  
Data on disease duration and disease outcome  
Imaging data  
[Medical records](#)  
Treatment protocol (types of drugs used)

## Contact Information

Ingrid Walter (Head of the VetBiobank)

[Website](#)

[Email](#)

University of Veterinary Medicine  
Austria

## Osteosarcoma Collection

**Id:** bbmri-eric:ID:AT\_VET:collection:OsteosarcomaCollection

**Size:** 1000 - 10.000

**Available:** 1606 samples

**Donors:** 46 donors

**Type:** Sample collection, Non-human, Disease specific

**Sex:** Neutered female (animal), Female, Neutered male (animal), Male

**Materials:** Tissue (paraffin preserved), Tissue (stained sections/slides), Tissue (frozen)

**Storage:** Room temperature, Liquid Nitrogen

**Data:** Biological samples  
Data on clinical symptoms  
Data on disease duration and disease outcome  
[Medical records](#)  
Treatment protocol (types of drugs used)  
Imaging data

## Corneal diseases

**Id:** bbmri-eric:ID:AT\_VET:collection:Cornealdisease

**Size:** 100 - 1000

**Available:** 342 samples

**Donors:** 57 donors

**Type:** Sample collection, Non-human, Disease specific, Image collection

**Sex:** Neutered female (animal), Neutered male (animal), Female, Male

**Materials:** Tissue (paraffin preserved), Tissue (frozen), Tissue (stained sections/slides)

**Storage:** Room temperature, Liquid Nitrogen

**Data:** Data on clinical symptoms  
Data on disease duration and disease outcome  
Imaging data  
[Medical records](#)  
Treatment protocol (types of drugs used)

**Diagnosis:** [Other disorder](#)  
[Keratitis](#)  
[Malignant neoplasm of cornea](#)

## Spleen diseases in dogs

**Id:** bbmri-eric:ID:AT\_VET:collection:Spleendisease

**Size:** 1000 - 10.000

**Available:** 2021 samples

**Storage:** Room temperature, Liquid Nitrogen

**Data:** Not available  
Data on clinical symptoms  
Data on disease duration and disease outcome  
Imaging data  
[Medical records](#)  
Treatment protocol (types of drugs used)

**Diagnosis:** [Diseases of spleen](#)

## Meningioma in dogs and cats

**Id:** bbmri-eric:ID:AT\_VET:collection:Meningioma

**Size:** 100 - 1000

**Available:** 341 samples

**Donors:** 23 donors

**Type:** Sample collection, Non-human, Disease specific, Image collection

**Sex:** Neutered female (animal), Neutered male (animal), Female, Male

**Materials:** Tissue (paraffin preserved), Tissue (frozen), Tissue (stained sections/slides)

**Storage:** Room temperature, Liquid Nitrogen

**Data:** Data on disease duration and disease outcome  
[Medical records](#)  
Treatment protocol (types of drugs used)  
Imaging data

**Diagnosis:** [Benign neoplasm of meninges - Benign neoplasm: Meninges, unspecified](#)  
[Benign neoplasm of meninges](#)

## Canine Lymphoma Cohort

**Id:** bbmri-eric:ID:AT\_VET:collection:Caninelymphomacohort

**Size:** 1000 - 10.000

**Available:** 1751 samples

**Donors:** 61 donors

**Type:** Sample collection, Non-human, Disease specific, Image collection

**Sex:** Neutered female (animal), Neutered male (animal), Female, Male

**Materials:** Tissue (paraffin preserved), Tissue (stained sections/slides), Serum, Plasma, Whole Blood

**Storage:** Room temperature, Liquid Nitrogen

**Data:** Data on clinical symptoms  
Data on disease duration and disease outcome  
Imaging data  
[Medical records](#)  
Treatment protocol (types of drugs used)

**Diagnosis:** [Other and unspecified types of non-Hodgkin lymphoma](#)

# Establish together cohorts of specific diseases

---

## Comparative medicine needs high quality biospecimens

- Standards are a prerequisite to compare samples
- Veterinary biobanks should come into view
- Publication of clinical veterinary collections and cohorts (BBMRI-ERIC catalogue)
- Establish a network of biobanks and researchers for comparative investigations



---

# NETWORK OF VETERINARY BIOBANKS



## vetmeduni

Veterinärmedizinische Universität Wien

Let's tear down the wall between human medicine and veterinary medicine!



### CONTACT DETAILS

**Ingrid Walter**

**Monika Wieser**

Veterinärmedizinische Universität Wien

Veterinärplatz 1

1210 Wien, AUSTRIA

[ingrid.walter@vetmeduni.ac.at](mailto:ingrid.walter@vetmeduni.ac.at)

[monika.wieser@vetmeduni.ac.at](mailto:monika.wieser@vetmeduni.ac.at)