

COMPARATIVE MEDICINE: BRIDGING SPECIES

Why clinical samples and data from companion animals matter to human health research

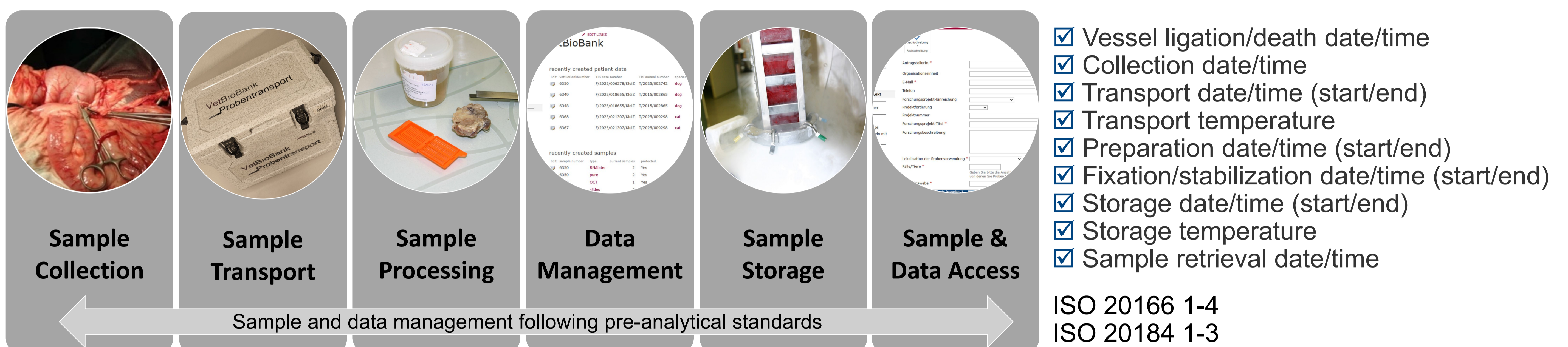
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INTRODUCTION

One of the main goals in comparative research is to ensure equivalent sample quality of veterinary and human biospecimens through established quality frameworks. Standardized sample and data management is a prerequisite to be able to compare research from different facilities and can help to reduce bias, increase reproducibility, and accelerate biomarker discovery across species.

FROM HIGH QUALITY VETERINARY BIOBANKING...

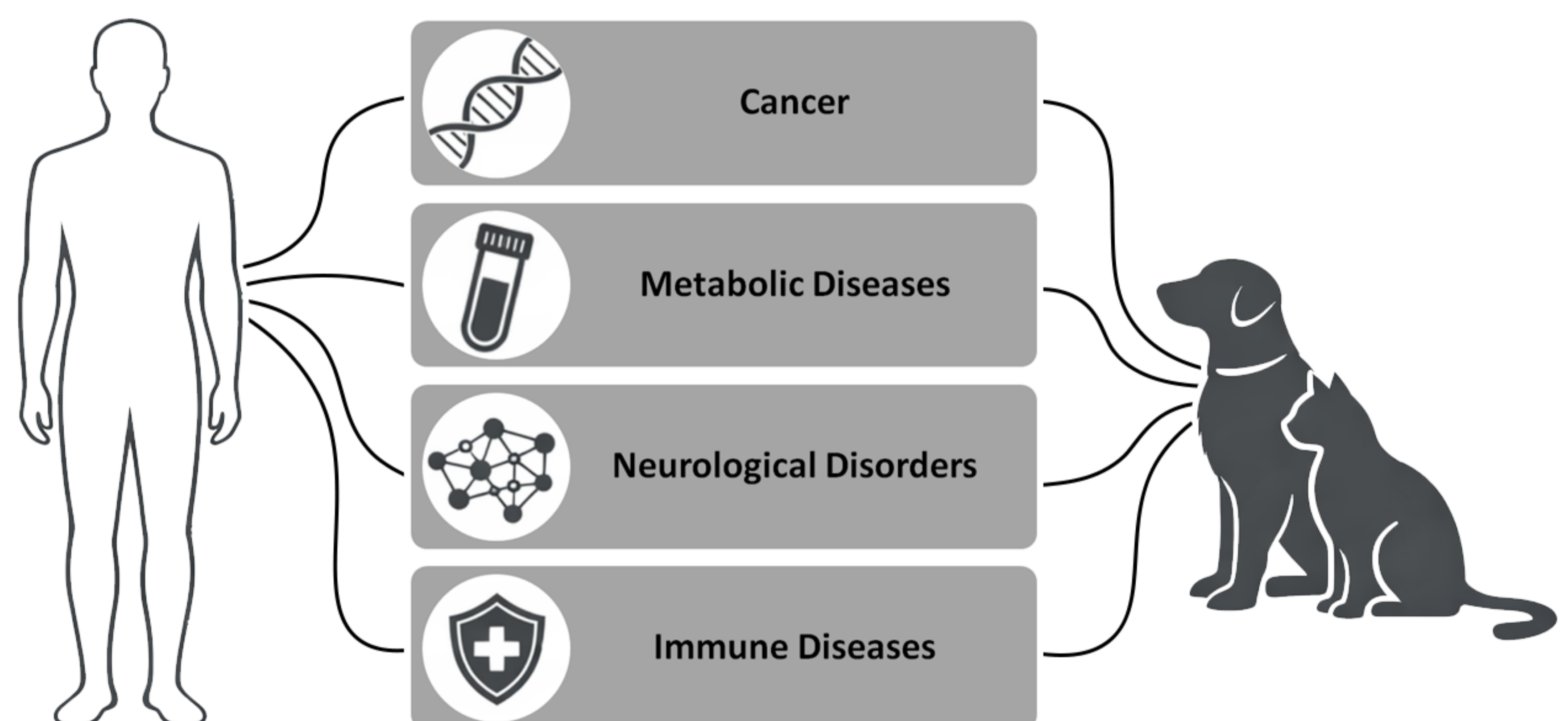


The VetBiobank of the Vetmeduni has implemented pre-analytical quality standards for collecting and processing of tissue samples from clinical patients, thereby increasing their potential value for future research.

...TO COMPARATIVE RESEARCH & MEDICINE

Companion animals naturally develop a wide range of spontaneous diseases, including cancers, cardio-metabolic disorders, neurological conditions, and immune-mediated diseases, which can closely **mirror human pathophysiology** in terms of disease progression, underlying mechanisms, and responses to therapeutic interventions, making them highly relevant for translational research.

Dogs and cats, kept as pets, typically share the **same environmental conditions** and exposures as their human owners. Therefore, they can serve as valuable models that **complement human research**, as they are closer to clinical realities in comparison to induced animal models in clean room research labs.



NETWORKING TOWARDS ONE HEALTH

Collaboration in (inter)national networks of the VetBiobank at the University of Veterinary Medicine, Vienna

- within **BBMRI.at**
- interfacing with **BBMRI-ERIC** (Work Programme 2025-2027, SO1.3)
- Aggregated, well-annotated veterinary cohorts discoverable through **shared catalogues**

Harmonized veterinary cohorts enable fast and reliable biomarker discovery and validation across species. Harmonized veterinary and human cohorts – both meeting the requirements of pre-analytical ISO sample quality standards - are necessary to drive comparative research projects, which will improve diagnostics and treatment strategies benefiting both animals and humans.

