

# THE BELGIAN VIRTUAL TUMOURBANK

In March 2008, the nationwide virtual tumourbank project was launched by the Belgian Minister of Health, Ms. Laurette Onkelinx (initiative 27 of the Belgian Cancer Plan). The Belgian Virtual Tumourbank (BVT network) encompasses the tumour biobanks from eleven Belgian university hospitals (<u>click here</u> for the list) that collect and store residual human tumour samples locally. In order to facilitate the search for tumour samples scattered among different Belgian institutions, data collected at sample level is made available for researchers via the online BVT catalogue (BVTc) application. A high quality of the data on the tumour samples requested by scientists for research in oncology is guaranteed by automatic and manual controls performed by the BVT project team at the Belgian Cancer Registry.

## TUMOUR SAMPLES OF DIGESTIVE ORGANS IN THE BVT CATALOGUE

Tumour samples from the digestive organs are the most common in the catalogue of the Belgian Virtual Tumourbank (BVTc), apart from breast tumour samples. In this edition, we take a closer look at the tumour samples of digestive organs registered in the BVT database.

To check if specific samples for your research are available in our catalogue, please request <u>full access to the BVTc</u> or complete <u>the sample availability request form</u>.

At this moment (June 2024), a total of **almost 140,000** registrations including 121,931 primary tumour samples and 16,404 metastasis samples, are available in the BVT catalogue (BVTc). There are **20,720** (14.9%) registrations in the BVTc from primary tumour samples of digestive organs. Among these tumour localisations in the BVTc, samples from male patients are more common than samples from female patients (57.5% vs. 42.5%). These samples are stored at -80°C (68.8%) or embedded in paraffin (31.2%).

## SUCCESS STORY IN GASTRIC CANCER SAMPLES

A good example of the use of biobank samples is the research performed by Baptiste Oosterlinck, a postdoctoral researcher at Laboratory of Experimental Medicine and Pediatrics (LEMP) of the University of Antwerp. The aim of his research was to identify mucin-microbiome signatures that shape the tumour microenvironment in **gastric adenocarcinoma** and clinical outcomes. At the start of this study, gastric cancer samples from abroad were used, but during an internet search, the **Belgian Virtual Tumourbank** was discovered.



Thanks to a <u>sample availability request on the BVT website</u>, available gastric cancer samples were located in five biobanks of the BVT network. The biobank of Antwerp was contacted and after 2-3 months, twenty gastric adenocarcinoma samples of good quality were used.

Scan the QR-code to enjoy a 1-minute video summarizing the research study on gastric adenocarcinomas. To read the full publication, <u>click here</u>.

### FROM OESOPHAGUS TO ANUS

The most common sample localisation in the BVT for tumours of the digestive organ is the **colon** (more than 9000 tumour samples) (Figure 1). Liver, pancreas and stomach tumour samples are also available in large numbers.



Inset: Sublocalisations of the colon for primary tumour samples in BVTc

## **MORPHOLOGIES**

To investigate the morphologies of digestive tumour samples in BVTc, only registrations of primary **malignant** tumour samples were taken into account (i.e. 92.3% of all primary digestive tumour samples in BVTc).



Figure 2: Morphologies of primary malignant tumour samples of digestive organs in BVTc (top 10 and other)

The most common malignant tumour samples of digestive organs in BVTc are adenocarcinomas (58.9%), hepatocellular carcinomas (11.4%) and mucinous adenocarcinomas (4.5%). Tumour samples from gastrointestinal stromal sarcomas (GIST) (3.9%) and cholangiocarcinomas (3.7%) complete the top 5 (Figure 2).



MATERIALS AVAILABLE BESIDES TISSUE OF THE PRIMARY TUMOUR

For 9,967 (48.1%) of the registrations from primary tumours of digestive organs, only residual tumour samples are available. The most common type of material stored in the local biobanks besides residual tumour tissue is **corresponding normal tissue** (48.7%). Whole blood (8.6%), plasma (8.8%) and serum (5.3%) are also well represented and even DNA, RNA, red blood cells and buffy coat are available for some registrations (Figure 3).

<u>Figure 3</u>: Materials available for primary tumours of digestive organs in BVTc Remark: Multiple types of available material may be reported per registration

#### LINKEDIN

Coeken A Zoeken Mijn netwerk Vacatures Berichten Meldingen
Belgian Cancer Registry
Belgian Virtual Tumourbank (BVT) An online tool for researchers to find residual human tumour samples of interest in 11 biobanks in Belgium Onderzoeksdiensten - Sint-Joost-ten-Node. Brussels Region - 85 volgers - 2-10 medewerkers     Bart en 53 andere connecties volgen deze pagina
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Scan the QR-code and follow us on LinkedIn for regular updates and news about the BVT.

Do you wish to be kept informed in the future? Do you no longer wish to receive our information? Send an email to <u>biobank@kankerregister.org</u> Belgian Cancer Registry | Brussels | <u>www.kankerregister.org</u>