

## Success story - Biobank UZ Gent

### Prospective Uniform Biobank Collection at UZ Gent

The University Hospital Ghent (UZ Gent) has established a prospective, uniform biobank collection to support translational cancer research through the systematic collection of liquid biopsies from oncology patients. The project aims to build a high-quality, harmonized resource that facilitates the development of new diagnostic, prognostic, and therapeutic approaches.

Currently, four clinical departments are actively involved in standardized patient inclusion and sample collection. All biological materials obtained within this framework are **centrally and uniformly processed by dedicated biobank laboratory technicians**, ensuring consistent, reproducible workflows across all participating departments. Following processing, **all samples are stored centrally within the biobank facility of the UZ Gent Central Biobank**, guaranteeing secure and certified long-term preservation.

In addition to the biological samples, **comprehensive datasets are being developed and linked to the corresponding biobank materials**. These datasets may include clinical characteristics, treatment information, follow-up data, and relevant outcomes, thereby greatly increasing the research value of the collection. The structured coupling of high-quality biomaterials with well-curated datasets enables more robust analyses and supports a broad range of clinical and molecular research questions.

Each year, the number of included patients continues to increase, and the initiative incorporates longitudinal follow-up, allowing repeated liquid biopsy sampling at clinically relevant time points. This temporal dimension further enriches both the biological collection and the associated datasets, enabling detailed studies on tumour evolution, treatment response, and resistance mechanisms.

Through this collaborative structure—combining centralized sample handling, uniform processing, high-quality storage, and well-linked datasets—UZ Gent is building a strategic research infrastructure that empowers internal researchers and strengthens national and international collaborations in precision oncology.

