



ONTARIO TUMOUR BANK

Quality. Diversity. Integrity.



The Ontario Tumour Bank (OTB) provides academic and industry cancer researchers with a diverse selection of high-quality biospecimens, derivatives and annotated clinical data. Using our network, you can gain access to a variety of tissue samples and data sets from four state-of-the-art hospitals and cancer centres across Ontario: Kingston Health Sciences Centre, London Health Sciences Centre, St. Joseph's Healthcare Hamilton and The Ottawa Hospital. Working with local pathologists, medical oncologists, surgeons and other hospital personnel, specially trained staff members obtain patient consent, collect biospecimens and assemble comprehensive clinical information about each donor to allow researchers to make specific sample selections for their research needs. OTB is dedicated to providing researchers with high-quality biospecimens, derivatives and clinical data needed to develop better diagnostic tools and new drug therapies.

Operating Procedures

Standard operating procedures have been developed in consultation with pathologists, scientists, privacy experts and ethicists to ensure the practical, high-quality, standardized collection of biospecimens and data across all collection centres.

The Ontario Tumour Bank has developed and implemented protocols covering:

- Tissue sample processing and archiving;
- Patient data collection and patient identification protection;
- Equipment maintenance; and
- Sample distribution to qualified researchers.

Procedures control for important pre-analytical variables, such as the time to cryopreservation of tissues (< 30 min) and blood (< 4 hours) from collection, ensuring fit-for-purpose for your study. Pathological case verification and molecular quality checks are regularly performed.

Samples Available

A diverse range of sample types and preparations are available from 35 disease sites along with comprehensive clinical data.

Sample Types

- Tumour tissue;
- Normal-adjacent tissue;
- Peripheral blood (plasma, cell-free plasma and buffy coat).

Sample Preparation

- Fresh frozen tissue (~250 mg/vial);
- Slides, wax sections and paraffin-embedded formalin-fixed tissue sections;
- Cryopreserved plasma (1 ml/vial), cell-free plasma (1 ml/-vial) and buffy coat (~250 µl/vial).

Derivative Products

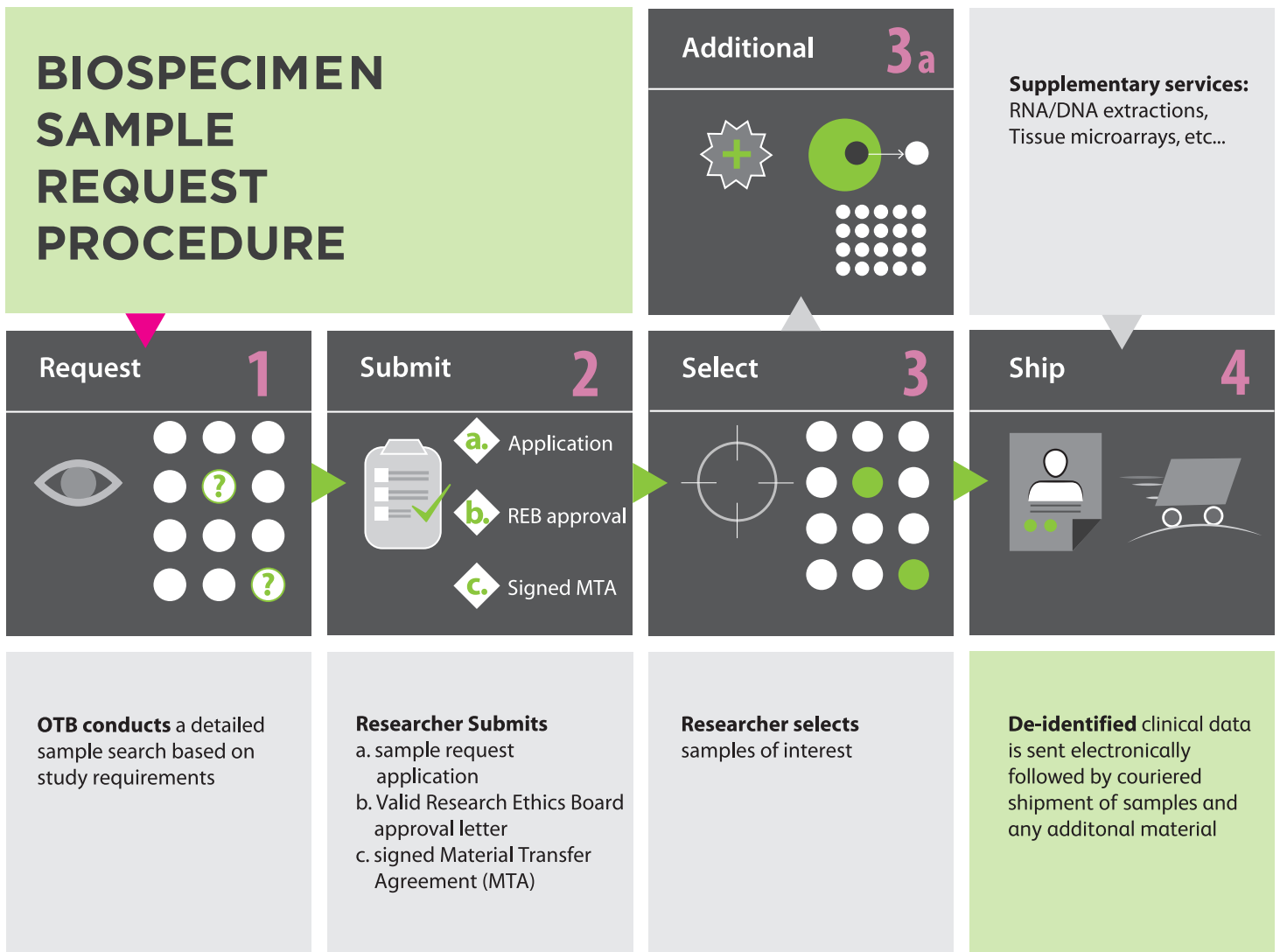
- RNA extraction from fresh frozen and formalin-fixed paraffin-embedded tissue (~1µg/vial);
- DNA extraction from buffy coat mononucleocytes and formalin-fixed paraffin-embedded tissue (~1µg/vial);
- Tissue microarray construction - sectioning obtained from one of OTB's pre-made arrays or a customized array specific to your requirements (10µm sections or request whole block).

Digital Images

- H&E stained sections from paraffin-embedded formalin-fixed tissue are digitally imaged using Aperio technologies. These images are hosted in the OTB's image database and are provided when a sample search is requested.

How to Obtain Tumour Samples

The process to obtain tissue samples and clinical data is efficient and user-friendly.



Facts and Figures

- OTB has accrued over 21,000 cases from more than 35 different disease sites yielding more than 185,000 samples, since 2004;
- OTB collects approximately 1,500 cases/year and can obtain five year follow-up clinical data;
- OTB has supported over 300 oncology projects and distributed more than 39,000 samples worldwide, since 2005;
- As of 2019, OTB samples and data have been used in over 125 known publications, 10 of them have been published in Nature, and one of them has been published in Science;
- OTB is certified under the Canadian Tissue Repository Network (CTRNet) certification program and is also a founding member.

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